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HENRY V. POOR, Editor.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., NO. 9 SPRUCE ST.

Saturday, August 19, 1854.

"The Railroad Mania."

There is a great deal said about the "Railway mania" which has been prevailing in this country, as if these works had been pushed to an extravagant extent, or that it is time that a stop should be put to their further construction.

That there has been an extravagant number of projects brought before the public, and lines laid down on *paper*, which if carried out, would be ruinous to their projectors, and highly detrimental to the public interests, we freely admit. Indeed, we look upon the discredit thrown upon railroad securities, and railroad projects, and the consequent check which they have suffered, as a most fortunate circumstance to the holders of railway property.

We cannot always move successfully in *one* direction. If railroads have absorbed paramount attention for several years, a pause should be allowed for *other* interests and other enterprizes to assert their claims; otherwise our development will be an unhealthy one. When the people of *Ohio* shall have completed the lines they have in progress, and which will give that State something over three thousand miles of railroads, the dictate of wisdom will be to stop the construction of new ones, for the present. Money will be better expended in *other* directions; the same may be said of other States. The present necessity will prevent the construction in Ohio of *all* roads that are not called for, and thus compel the people to act in harmony with their *true* interests. Such being the result, the present state of affairs is not to be regretted, though it may add largely to the cost of some of the unfinished works.

There is no one tendency in the progress of our railroads which is regarded with greater distrust than the disposition to construct *competing* lines; yet with a healthy sentiment on the part of *capitalists* there is little cause for such fears. Every body would like to have a railroad running by his own door; yet, however strong this desire may be, the number is few who would take stock in such a work which they did not believe would *pay*. But no *rival* road can be constructed where the company will not be compelled to come *east* for a considerable portion of its *cost*. If rival roads are built, therefore, they will be built by the *capitalist*, whose interests of all others are most to be prejudiced. It depends upon this class of our citizens to say, whether rival roads shall be built or not. And no matter how many rival roads have been proposed. Their projectors, and the public, will find that such roads *cannot* be built. Experience will show that we have *less* to fear from this source than was expected, and that just in proportion as the railroad system expands, does it become the more difficult for any project having a *rival* look, to succeed. A new railroad is started in Western New York, or in Ohio, or Indiana, for instance, the projectors of which in due time come to New York for *money*. The first inquiry of the parties to whom the scheme is unfolded, is, "how will it affect the projects in which I am interested, or those for which I have acted as agent, or which I have recommended to my friends." If the answer, or conviction be favorable, still the *third* party to whom the proposed loan may be offered for *investment*, may entertain a different opinion, and refuse to touch it. The tendency of every one who has invested in securities is to *conservatism*, and he naturally feels a hostility to every thing *new*, whether there may be any grounds for this hostility or not.

We think this view of the case will tend to quiet apprehension as to the danger of rival *works*. We have no doubt it is confirmed by the experience of those who have attempted to raise money for such. Three or four years ago, a man could hardly come from Ohio to raise money for a railroad, without meeting encouragement from every quarter. Those who did not wish to buy his securities, wished him well, for the *general* good to be accomplished by his road. The interests of the railroad companies, and the commercial and monetary communities, were regarded as entirely harmonious. *Now*, there is hardly a person in any of the eastern cities that has not stocks and bonds in Western railroads. A *new* project is at once looked upon with suspicious eyes, as its accomplishment may render worthless *older* ones, and the new comer finds himself an unwelcome visitor to the temples of Mammon, and is politely bowed out, where his predecessor only a year or two previous, was most affectionately received.

Circumstances, and with them the opinions of people, have changed. The present stringency in money matters has helped to confirm this change, and this is the reason why we have welcomed it. The construction of railroads is stopped *per force*, and during the *interregnum*, time is allowed for reflection, and for the conservative sentiment of the country to assert itself.

We are not in present danger, therefore, of *rival* roads. While this is true, we do not think that for the last five years we have built in the aggregate, too many roads, for the *public* good. We may have built roads where their *stocks* may not be immediately remunerative, but which were proper to be built, notwithstanding. We make a wide distinction between the *stocks* and *bonds* of railroads, for the most obvious reasons. The stockholders in a road, living upon its line, may be repaid the first year, all their contributions to it, by the increased value of their property. The *value* of such stock, therefore, becomes really a matter of secondary consideration to such owners. The purchaser of *securities*, on the other hand, derives no such *incidental* advantage, and if his security

sinks in value, he loses in an equal degree. In looking at the question as to whether the construction of railroads in this country has been overdone, the answer may be found in the fact, whether companies can, or cannot, pay the interest in their *indebtedness;* for if this can be done in all cases, we think the question may fairly be answered in the negative.

We regard it as certain that not only are our railroad companies entirely able to meet their liabilities, but that our new works will in the aggregate, earn a fair rate of interest on their cost, and that in a great many cases, dividends will be earned and paid on *stock*, larger than the interest paid on their *liabilities*. As stated in a previous number of the Journal, the hypothesis upon which railroads have been built has not been invalidated. Our railroads are doing all that was claimed for them. But the rapid increase in their construction accounts, consequent upon an equally rapid increase of business, compels companies to use earnings in construction, which in an easy money market would be paid in dividends. But the existing state of things will soon change for the better, the relations between the abundance of capital and the demand for it, be restored, and the parties who have invested in railroads will get just what they supposed they were getting.

We think on the whole that the progress of railroads in this country has been a healthy one. There are exceptions undoubtedly, but the rule is as stated. Such being the fact it is plain to see that we have only *commenced* the construction of these works. If the railway be a good thing for Ohio, Indiana, and Illinois, it is equally good for Kentucky, Tennessee, and Mississippi;—yet where the former States have *thousands* of miles, the latter hardly have *hundreds*. The railway bears a certain relation to the wants of every section of the country. When these wants are *supplied*, their construction will cease, as it has in New England, in portions of New York, and other States. Ther ise just as good reason why the States without railroads should enter vigorously upon their construction, provided the money can be obtained, as at any former period.

Neither the value nor the productiveness of these works have been over-stated. Commerce and manufacturing are no less legitimate pursuits because at particular times they appear to be overdone. The tendency of every department of industry and enterprize is to excess, a tendency which can only be corrected by the action of *other* laws. Such a check have railroads received, yet there is not a doubt that a greater number of miles will be constructed in the *next*, than have been within the *last* five years; neither is there a doubt that railroad securities will soon be in as active demand as they have been. The excesses, caprices, or the misconduct of a day, are not going to subvert a general law, nor render legitimate enterprize less productive, nor prevent the use of the most potent agency ever yet employed in advancing man's social, moral and material good.

So much for what railroads are in *themselves*. What is to be said of them when we come to the *results* they have accomplished? Every railroad built has added more than fivefold its cost to the value of the property of the country. What other investment has done the same? They have increased the internal commerce of the country in an equal degree. The merchant owes his wealth and business to them; the manufacturer the demand that exists for his wares; the farmer the extraordinary price he is getting for everything he can raise; the foreign trade of the country, the extraordinary impulse it has received within the past five years. It is the railroad that has filled to overflowing the national treasury. It is the railroad that is attracting nearly half a million of emigrants annually to our shores, and who at once become co-laborers to our greatness. Who has a right to complain if these works have come in for a lion's share of our capital? Not the merchant, nor the manufacturers, nor the artisan, nor the farmer, to the advantage of all of whom railroads have contributed in an eminent degree. None *will* complain, as soon as a harmony between the different departments of industry of the country shall become restored.

In building their Railroads our people have done well. For the same reasons we have built them, we shall continue to do so hardly without perceptible pause, till we have an aggregate of 50,000 miles, which will be only about 1,500 miles to a State. Such being the facts the efforts of every one should be exerted to restrain the tendency to excess in periods of great apparent prosperity, and to sustain confidence in these works in times of despondency. Railroads are like every every thing else. They are not the *sole* good when everything goes prosperously; nor the sole *evil* when the reverse is the case. They are just as valuable as they were two years ago. Investments in them may be made with much *greater* safety. The existing state of affairs will turn attention to their management, a result which could be effectually secured in no other manner, and will lead to the adoption of an economical and responsible system of management such as will render them productive. "Hard Times" have put all our Companies to a good *school*, which continued prosperity never would have done. There is therefore nothing to regret in the present state of popular opinion in reference to these works. It is not to be regretted that we have built the roads we have. It is the *timid* whose vision is bounded by the circle of the day, who loses confidence and courage. The principle upon which we have been acting is a correct one, and not withstanding occasional abberations from it, it will in the end bring us to a safe conclusion.

Western and Atlantic Railroad, Ga.

James F. Cooper, Superintendent, has laid before the Governor a report of the Earnings and expenditures of the Western and Atlantic Railroad for the 1st and 2d Quarters of 1854, from January 1st to June 30th, 1854.

MONTHS.	EARNINGS.	EXPENDITURES. Working and maintaining Road.	On all other Accounts
January....	47,082 80	19,498 52	18,965 25
February...	51,590 82	21,268 34	13,097 27
March.....	71,681 42	22,530 52	32,679 43
April.....	63,762 11	32,927 01	47,644 54
May.....	44,622 59	15,124 78	26,865 40
June.....	39,664 42	18,732 04	20,683 16
Amount'g to	318,402 16	130,081 08	159,935 04
Same period in 1853...	238,116 58	156,460 41	219,495 35
Difference...	80,285 58	26,379 33	59,500 33

To the Editor of the American Railroad Journal.

LONDON, July 13, 1854.

SIR: We have a very strong opinion, and have already to you mentioned verbally, that many of the American Railroads have fallen into an unfortunate line of policy, in loading their roads with such large amounts of absolute *debt*, and that bad and wasteful as the English railway has been, we have at least a great advantage in having generally adopted the plan of a comparatively small bonded debt, and of *preferential* stock for so much money as may be needed beyond the aggregate amount of bonded debt and common share capital.

English Railway Companies have very generally three classes of capital; 1st Common stock with no liability attached, which is simple partnership; 2nd. Preferential stock, which gives a continual claim on revenue, but none upon capital—the dividend has to be provided as agreed, but there is no periodical financiering; no further trouble on this account—the money once raised is raised for ever; 3d. The bonded debt which is limited by Act of Parliament to one third of the aggregate share capital. This attaches as a liability on both capital and revenue account; the interest must be paid out of the revenue as it falls due. The bonds fall due from *time to time*, and the company must keep redeeming, but they are greatly facilitated in this by the system of taking up money just as they want it, and so making their bonds keep due at many various dates and not a great lump at one and the same date.

By this means the English Companies insure to their bonds generally a high character as a security, and thereby prevent any material fluctuation in their value, and they are always sought after at rates of 4 to 5 per cent. according to the state of the money market. They suffer no discounts, nor loss in their financeiring. The risk of fluctuation in the price of the preferential shares is no concern of the company, it is all borne by the individual proprietors.

But how unhappy the position of many of the American Companies. They issue first-class bonds; even they fluctuate seriously; but let that pass, only that it is a misfortune that they fall due in such masses on one day and go in such great lumps to great contractors, whose flounderings, when they made a mistake, do untold mischief to the Companies concerned. But they issue also second class bonds just where English Companies issue preference stock. Well, they raise this money at serious cost, but the work is not done with; slowly but surely the bonds mature and come due; a lowering cloud depresses the Company's stock; perhaps the money market is tight; the stock suffers its own natural depreciation, but it suffers doubly because of the incubus of the debt coming due. The question comes, how will the Company raise the money? Second-class securities are at great discount, what will be done? Will the revenue bear the loss, and if so, where will the next dividend be, and so forth. The New York Stock market groans under the weight of this system of financeiring, and well it may, for in some Companies it renders any approximate valuation of the ordinary stock quite impossible.

Of preference stock, we have various sorts for varying tastes. Some with fixed perpetual dividends; some with fixed dividends with a right to the proprietor, either at any time, or until some

given period, to convert his preference shares into common stock; some with a fixed dividend as a minimum, and a right, without abandoning their minimum rate, to take a higher dividend if it arise on the ordinary stock. Some with a tempting fixed interest for a few years and a reduced rate afterwards; some with a right of redemption by the Company at a fixed price. These are all points of detail—the great point we insist on is the advantage and soundness of the principle of raising the money this way and for ever, instead of the plague of borrowing and re-borrowing upon second-class bonds.

Yours truly,

HESELTINE & POWELL.

We do not think there is so much difference between the English and American mode of raising money for railway purposes, as appears upon the surface; neither do we see any advantage gained by issuing *preferred* stock, except that it avoids the necessity of *eventual* payment of the money raised. An English company when in want of money issues *preferred* stock; an American, bonds secured by mortgage of the road, or not, as the company and purchaser may agree. Both the *preferred* stock and bonds take precedence of the *common* stock in English railways, and of the *entire* stock in American, and the charges of both are defrayed from *earnings*.

In *one* case there is an agreement to pay *perpetual* dividends; in the *other*, a certain rate of interest; and the principal at a future day. We think that in this market, *preferred* stock would be subject to greater fluctuations, than bonds, and would not be so readily taken by the public. We are satisfied that a seven per cent. *bond* issued by a railroad company would command ten per cent. more than a *preferred* stock carrying the same rate of interest, and equally well secured. The reason of this great difference in the *market* value of the two may be owing to the practice of our companies, in issuing *bonds* instead of *stock*.

There appears to be some advantage of having in every country, a *fund* paying perpetually a certain income, in which persons or institutions can *invest*, without having their incomes subject to diminution, or to the necessity of *re-investments*. But the creation of such funds is against the habits and ideas of our people. When the General Government borrows money, it is for a stipulated time, and at a stipulated rate of interest. The English Government has taken advantage of its high credit, and the great abundance of money to reduce the rate of interest on its national debt. The United States cannot force its creditors to receive their pay till the money, by agreement, falls due. Though it has, within a few years past, redeemed a large amount of its outstanding bonds, it had to pay an advance of 21 per cent. All the debts of the State Governments, are payable upon a day certain, and we know of not one which presumes to pay at all, that does not discharge its liabilities as they mature.. The policy of paying off the *State* debts has been the settled policy of our people, so that at any amendments of the Constitution of the several States, which usually occur about once in 10 years, to accommodate their organic laws to their altered condition, or ideas, clauses are inserted almost without exception, providing for the payment of the *old* indebtedness, and forbidding the creation of *new*. We refer to this fact merely to show the habits of our people, and in explanation of the reason why perpetual funds are not encouraged. They do not like to bind themselves, and their descendants to a perpetual obligation, but prefer to have the privilege of reclaiming their money for re-investment in something which, in their opinion, promises to pay better.

We have spoken of the *habits* of our own people, without expressing any preference for them. The *English* method may be a better one. We have, however, always urged a course, the tendency of which would be to put *all* investments in our railroad on the *same* footing; which is to make the indebtedness of all companies convertible into their *stock*. When the cost of a railroad is represented by stock, its affairs will be much better looked after than when the *stockholders*, who are the managers, represent a mere fraction of its *cost*. The reason is too obvious to require further remark. Where there are numerous interests, all of a different character, some one of them is pretty sure to suffer. At any rate, such is the experience in this country. Where there are different interests, distinct sets of accounts may have to be kept, the adjustment of which often gives rise to litigation, which of itself not unfrequently proves ruinous to the parties concerned.

The tendency of the public sentiment which in this country consequently, is toward simplification, and we may say, toward generalization, avoids as far as possible, all *preferences*. If success be the test of the wisdom of any particular policy, certainly the experience of our people is entitled to great weight. From a careful examination of the subject, we have no hesitation in saying that the entire investment in railroads in the United States, is paying at least six per cent. on its cost and will do so for the next five years, and we believe a much longer period. What other country can show so favorable a result?

For the want of an *uniform* interest, we foresee that much trouble will arise when the obligations of railroad companies *mature*. Take the case of the Erie Railroad. This company has made *three* mortgages upon its road to secure three distinct loans. The first mortgage bonds are selling at 110; the second 100; and the last at 84½. The two first loans have only a short time to run, while the third has 30 years. As the *second* is to be paid out of the proceeds of the *third*, and as there can be no question that from the small amount of the *first*, it will be paid at maturity, the *third* then becomes a *first* mortgage. Taking into consideration this fact, the length of time it has to run, the interest it pays, its perfect security, we consider *this* class of bonds as equally, if not more valuable than those secured by the *first* mortgage, which are to be superseded in a few years. Yet they are selling at a very low figure, mainly for the reason that the day of their eventual payment is so far distant.

How our railroad companies are going to pay their liabilities as they fall due is not entirely clear. The difficulties, however, will resolve themselves, as we approach the day of their payment. The cost of our railroads will have so much increased, that the *first* mortgages will be comparatively small sums, easily lifted by those coming after them. Capital will have become so much more abundant, that the holders of the *first* mortgage will much prefer to change their places with others less favored, than to receive their money back again.

Self-Adjusting Railway Signal.

One of the principal causes of accidents on Railroads, by which numerous lives are lost, and property of enormous value destroyed, is found in the defective system of signals used at draw bridges switches, railroad crossings and other places of danger. The unexpected approach of a train often times bewilders the mind of the signal man to such a degree, that, scarcely conscious of what he is doing, he shows the signal of safety when the emergency requires that the signal of danger, to be exhibited; and so the train, which should have been stopped, goes thundering on its way, and is precipitated into the water, or thrown from the track, or forced into collision with another train.

Occurrences of this nature have been so frequent and the impression produced by them, on the public mind, so indelible, as to render it unnecessary in this connection to refer to any particular instance.

Another prominent defect in the present system of signals, is the shortness of the distance at which they are visible from an advancing train. Particularly is this the case where they approach to a draw-bridge, or other place of danger is a round curve. Under such circumstances, the signal cannot be seen by the engine driver until the train is near the place of danger, and, as it sometimes happens, the speed of the train cannot be checked in season to prevent an accident.

The Self-Adjusting Railway Signal, recently invented by Mr. S. L. SPAFFORD, the able Superintendent of the Wilmington and Baltimore Railroad, entirely obviates the defects in the old system of signals. Mr. Spafford's signal can be attached to any moveable structure, at a slight expense, it is simple in its construction and consequently not liable to get out of order. It can be elevated to any height desired, and is so arranged as to show the proper signal, both by night and day. The chief merit in the invention, however, consist in the absolute impossibility to show a *wrong* signal by it; a desideratum long felt by railroad men. The machinery by which the signal is operated is connected with the structure to which it is applied, in such a manner as to render it impossible to exhibit the signal of safety for the passage of a train unless the structure, a draw for instance, be in its proper place and securely locked.

The circumstances which led to this invention, illustrates its importance and value. Soon after Mr. SPAFFORD assumed the office of Superintendent of the Railroad, with which he is at present connected, a freight train, running at night, was precipitated through an open draw into a river, causing the death of several persons and the destruction of a large amount of property. The draw, it seems, had been left open for the passage of a vessel and the Bridge Tender, being fatigued, fell asleep. The noise of the approaching train suddenly awakened him from his slumber, and being confused as was natural under the circumstances he unwittingly exhibited the signal of safety instead of the signal of danger and the train went rushing on to its destruction. This accident directed Mr. SPAFFORD's attention to the necessity of having a system of signals, which should

be entirely *independent* of any human being and, which, at the same time should be in all respects reliable. After much reflection on the subject he succeded in producing the Self-Adjusting Railway signal, which was immediately introduced into use on the Philadelphia, Wilmington and Baltimore Railroad where it has been subjected to the severest test for the last eight months and proved itself admirably adapted for the purpose to which it is intended.

A due regard for the safety of passengers and a prudent management of the property entrusted to their care should induce the Directors of every railroad in the country to investigate the merits of this invention, and, if satisfied with its operation, to introduce it at once into use on their respective Roads. Such a course would go far towards restoring that confidence in the safety of travelling by Railroads, which the numerous accidents that have recently occurred at Draw-Bridges, Switches and Railroad crossings, have tended to impair. Hereafter the excuse, that the signal-men exhibited the wrong signal and thus caused a frightful accident will not exculpate the managers of any Railroad from the charge of gross carelessness and neglect in not guarding against the possibility of such an occurrence. A model of the invention illustrating the operation of the signal can be seen by persons interested in the subject, at the office of D. P. Hall, Esq., No. 1 Nassau street.

FRANKLIN E. FELTON.

We learn that the detailed statement of the above invention illustrated by suitable drawings is in course of preparation, and which, in due time, will be laid before the public.

(For the American Railroad Journal.)

Car Ventilation.

It is gratifying, I doubt not, to the readers of the Journal to see car ventilation regarded as properly one of the great questions of inquiry in relation to railway travel. Ventilation, which simply implies a substitution of pure air for the vitiated, as the latter is withdrawn, and which is easy of accomplishment in most other cases, is at once a difficult and an important problem in respect to passenger cars. To draw off air loaded with one kind of impurity and replace it with that which is charged with a grosser kind, though a species of ventilation both easy and common in cars, is in fact the very thing to be obviated by such a substitute as shall solve the problem of a *pure air* ventilation. In the way of definition therefore, "car ventilation," like all other saloon ventilation, may be understood to mean *the continuous substitution of* PURE AIR *in place of vitiated air withdrawn*. The ventilation is the more perfect as the air passes the more directly from each individual, towards the exhausting aperture without re-use. It is obvious that the air with which the cars are filled before starting, begins after, to pass off by the exhausting force on the apertures above, and they must in ordinary ventilation be refilled through the windows or their crevices with such air as is outside, unfit as it is for the purpose. It is to feed this indraft with *pure* air so as to answer the considerations of the most perfect ventilation that all efforts for the exclusion of dust, smoke and cinders, are to be primarily directed.

It has been under the influence of views like these that many have attempted to procure a wholesome car ventilation—views that it is believed no one will controvert or deem trivial.—Among the systems set forth before the public, that delineated and described on the second page of the Journal cover is claimed to possess prominent merits. It claims to take up the supply of air as far forward as may be necessary to have it pure, the system not being limited to the front of the baggage car, though it is presumed purity may be secured at that point. A channel to suit the computed maximum demand located where it can be no incumbrance is provided for its safe conduct aft. From this main conduit over head, are leaders to each window, into which no other than this pure air can be drawn. Through these the air may be led by suction as well as at the same time pushed by the motion of the train, in any quantity which the exhaust apertures above may be adapted to drain off.

This system secures the following conditions. It furnishes to each individual seat a direct communication with the pure air supply and from each seat gives the air a direction towards the apertures, thus relieving the ocupants of every other seat from a second-hand use of the same air. The number of acting exhaust apertures may be multiplied or diminished at pleasure, or with the demands of the weather and at different points of the same train or car, by means of the registers inserted.

If there is any motion in the external air the ventilation proceeds with briskness when the cars are at rest, and when they are filled it always proceeds as an effect of warmth tendency upwards.

Another condition fulfilled by this system is, a fitness for all seasons and temperatures which advantage is secured by the ventilation being governable for each seat at its own window to suit the occupants. In this respect the case is the same as heretofore and so indeed in all respects, except the admission of pure air instead of the impure.

A further condition fulfilled is; it is always right, always ready, requiring no attendance or regulation dependent on the promptness of employees of road. It is self-connecting and self-parting in the making up and unmaking of the train. All these conditions offer no slight advantages for the remedy of a real evil—advantages not easy to be overlooked or in other ways provided. There will not be wanting those whose interest or whose prejudgement of the whole question, will lead them to decry the system with all its advantages. But let them show the fallacy of its principles, the unsoundness of its conclusions, the futility of its operation, or the puerility of the object in view and these will be listened to with becoming patience.

While this system is strictly a plan for pure, free and plentiful ventilation, other efforts in the same direction of the most prominence have sought to secure the benefits of ventilation, collaterally with provisions for getting up wind for hot days such as may not be only admissable, but pleasant during the three summer months. But this latter is an object aside from the legitimate sphere of ventilation and belongs rather to a class of devices for "fanning" passengers in their seats; an object good in itself—but not to be confounded with necessary ventilation.

These efforts are based upon the fact that open car windows afford a tempting breeze of which it is supposed the passengers are unwilling to be deprived. It is a question whether a very free ventilation of the usual kind will not be more satisfactory. Indeed it is certain to be more so than a current or draft that you cannot personally govern or avoid.

In conclusion I may be allowed to notice what seems to be a palpable fallacy in the conclusions drawn by one of your correspondents on this subject.

Can the man be found that has walked or can walk through a car directly beneath a series of large blowers delivering each a blast of 300 miles per hour? Or the man who sits at a car window subjected to a draft of 30 miles per hour and condemns the ventilation because it is too hot? But to quote "an occular demonstration" of this fallacy. The "smoke in the centre of the car in two seconds of time will reach the window." Four and a half feet in two seconds of time is, how many miles an hour? Not 30 surely.

C. LANCASTER.

St. Louis, Paducah, and Nashville Railroad Connection.

A significant idea of the enterprising spirit of the people and of the stability of St. Louis, may be derived from the fact that their city, county, and private subscriptions to the railroads west of the Mississippi amount to $5,500,000, that the number of men now working on the Mississippi Valley Railroad—embracing the North Missouri and Iron Mountain Railroad—amounts to nearly 1,000, and on the Pacific Railroad to more than 1,000, that the account of receipts and expenditures for the city alone during the year ending 8th April, 1854, amounts to $1,041,697 42, that the surplus revenue of the last fiscal year amounted to $37,434 20-100, that its revenue last year was $725,966 84, and that the real estate held by the city in its own right, is estimated by good authority at over 3,000,000, while the whole debt of the city might be met by its own property independent of its revenue, and moreover when railroad bonds were falling, and the tax-payers of the city and county were called upon to give additional aid to the Pacific railroad, they voted on the 8th May, 1854 to tax themselves $1,200,000, to carry on the work out of their own resources, by an overwhelming majority.

The amount of aid given by the people of St. Louis to railroads in Illinois, the amount of manufacturing and commercial business done here, though too extensive to be condensed or even shadowed forth in in this article, would enlarge and exalt the idea of the enterprising spirit of the people, and deepen the conviction of their rapid and continuous prosperity, in wealth and population, the number of inhabitants being acknowledged at present to be about 120,000.

One of the lines of railroads starting from St. Louis points toward Paducah. The Belleville and Illsnoistown railroad was the first indication that way. The original object of this road was to connect St. Louis and Belleville 14 miles. We are indebted to Mr. A. A. Van Wormer, for the following data of the present condition and stage of progress of this work.

"The graduation of the whole line is complete. Depot at Belleville (which is brick and is large and 1st class) is built. The cross ties are delivered. Two 1st class locomotives and 6 platform cars are ready and all on the track at the river.—The rails and chairs are ready. The track laying will commence in a few days, and it is confidently believed that the road will be done in thirty days thereafter. One mile and a half is already laid."

From this authority, it may be inferred that the cars will be running from the Mississippi to Belleville early in the fall.

By a clause in their charter, the Belleville and Illinoistown R. R. Co. extend their road to Alton on the one side and Murpheysborough on the other. The Alton line is 22 miles in length, of which the graduation of 18 miles is complete, and the remainder will soon be done.

An experimental survey has been made of the line from Belleville to the Illinois Central R. R. through Murpheysborough, distance 76 miles.—Cost of road in running order estimated on this survey, is within $2,000,000.

These two links with one on the Illinois Central R. R. of about 44 miles, connects St. Louis and Cario, which chain of roads, being only 134 miles, will draw an immense amount of business between the north and south, and during the winter season, when the river is frozen or blocked up with ice between St. Louis and the mouth of the Ohio, will do not only the passenger and post office business, but also the heavy freight business of the river, towards and from New Orleans and the whole southern portion of the Mississippi. Cario must necessarily be a point of great importance, and the shortest road connecting it with St. Louis, must pay large dividends to its owners, at all seasons, and above all, in the winter, and dry seasons.

The extension of the Belleville and Murpheysboro' road, in nearly a direct line, strikes Paducah; the distance from its junction with the Illinois Central R. R. and Paducah being 50 miles, making the distance from the St. Louis to Paducah 140 miles, which at reasonable railroad speed, is 6 hours. That the St. Louis and Paducah railroad connection may be fairly appreciated beyond even the local advantages which are certain to be derived from the peculiarly rich soil and coal region through which the route runs, it is proper here to present a view of the enterprising spirit of the people of Paducah, and to consider the forces that are working within and around it, conspiring in raising it to an importance greater than even its good position might naturally have gained.

Situated at the confluence of the Ohio and Tennessee rivers, Paducah might naturally have gained a large portion of the trade of those rich valleys; yet the artificial channels of trade—the railroad avenus of wealth around Paducah were originally directed elsewhere. The Mobile and Ohio R. R. and Illinois Central were both directed to Cario; the Nashville, Louisville and Cincinnati railroads were also directed to other places. The trade of Paducah was in danger of being cut off on all sides, when, with watchful foresight, its people cast their eyes on the Mobile and Ohio railroad with a determination to turn this horn of plenty, that its fruits might fall at their own doors. They also cast their eyes across the Ohio, up the Wabash valley to Vincennes, with a determination to control a good share of the resources of those fertile fields. They laid their plans skillfully, and are now executing them with boldness, not only to defend but also to aggrandize their trade. Authentic reports show that they have built 15 miles of their road towards Mobile, and have a fair prospect of finishing it 25 miles to Mayfield this year, when 34 miles more will complete their connection with the main trunck in Tennessee. For more minute data on the subject of this enterprise we refer to the last report of the Mobile and Ohio Railroad Company published herewith.

We will now present a business sketch of Paducah itself, the materials being furnished at our request by the highest unofficial authority; and we are assured that the representation is within rather than beyond the reality. The sketch is just drawn, June, 1854. The business houses o' Paducah number 67; 46 being dry goods and grocery stores, 3 clothing, 1 hardware and iron, 3 boot and shoe, 3 drug, 1 book and music, 1 China glass and Queensware, 1 horticultural and seed, 2 boat and ship chandlery, 2 watch and jewelry, 2 fancy and millinery, 1 variety, and 2 merchant Tailor stores.

The manufactoris are as follows: 1 large stone flouring mill capable of turning out 300 bbls. per day, 3 large saw mills running three or more saws each, 2 tanneries, one extensive and run by steam, 1 steam chair factory, 1 large barrel factory, 1 pork-house. 4 furniture manufactories, 2 saddle and harness, 1 small foundry, 4 blacksmith, 2 tinnery and sheet iron, 2 upholsteries, 1 carriage factory, 2 gunsmith shops, 1 tobacco warehouse, sales tri-weekly, 1 tobacco stemmery, 1 tobacco factory, 1 boat yard, 1 set marine railway for docking boats capable of hauling out any steamer afloat.

Of other buildings there are 7 hotels, the St. Francis built this last fall equal to any in the West, 2 livery stables, 7 churches, Old Presbyterian, Methodist, Baptist' Episcopalean, Cumberland Presbyterian, Christian and Catholic; 2 colleges, one male and one female, 3 primary schools, 2 banks, one tne Commercial Bank of Ky. with two branches, Mother Bank at this place, also a branch of the Bank of Louisville. 6 newspapers, one daily, one semi-weekly, four weekly, and one monthly, are published in Paducah. Population of Paducah, which in 1850 by census report was only 2,428, is now estimated at 4,000.

From this business sketch, from these indications of the enterprising spirit manifested in and around this place, from the wellknown agricultural, mineral and commercial advantages it enjoys Paducah must be considered a point of rising and great, if not commanding importance; and one with which St. Louis should be connected intimately by packet boats, and as speedily as possible by a direct railroad.

The argument in behalf of this railroad connection is strengthened by the consideration of its rapid extension to New Orleans, to Mobile, to Savannah and to Charleston. By the New Orleans, Jackson and Great Northerh Railroad, and by the Mobile & Ohio Railroad, the connections with New Orleans and with Mobile will be established. From Savannah and from Charleston to Nashville, continuous lines were opened and put in operation this year, therefore it is necessary to obtain only a connection with Nashville, in order to realize a complete one with the south-eastern Atlantic coast of the Union.

We have treated of this route from St. Louis via Paducah to Mayfield, Ky. We will now sketch the remainder of the same to Nashville.

From Mayfield, Ky, to Paris, Tenn., the distance is 36 miles. Here a connection may possibly be established with the Nashville and Northwestern Railroad, and if not at Paris, more surely at Reynoldsburgh, on the bank of the Tennessee river, 24 miles further. From Reynoldsburgh, to Nashville the distance is 60 miles. This last link in the chain of railroad connection between St. Louis and Nashville is insured for its completion, as will be seen by reference to the facts on this point published in the Western Journal and Civilian, vol. 9, page 238, and vol. 10, page 365. By allowing 15 miles for deviations along the route from Mayfield to Nashville, 120 miles, and adding the distance from Puducah to Mayfield, 25 miles and we find the distance from Puducah to Nashville along this route 160 miles, and the distance from Paducah to St. Louis being 140 miles. St. Louis and Nashville are thus brought to within 300 miles, and at the speed of 30 miles an hour, to within 10 hours of each other.—*Western Journal.*

Indianapolis and Cincinnati Railroad.

The following figures show the receipts from passengers and freight in their respective departments for eight weeks in the months of June and July.

Week ending.	Pass'rs.	Freight.	Total.
June 3.....	$2,583 03	$1,603 81	$4,186 84
" 10.....	2,480 20	1,591 62	4,071 82
" 17.....	2,575 47	1,573 25	4,148 72
" 24.....	2,693 72	1,745 25	4,438 97
July 1.....	2,095 20	1,505 12	3,600 32
" 8.....	2,317 77	1,698 77	4,016 54
" 15.....	1,825 57	2,412 24	4,237 81
" 22.....	1,616 03	2,138 06	3,754 09
" 29.....	1,659 30	1,922 84	3,582 14

Journal of Railroad Law.

RAILROADS NOT NUISANCES.

Bell vs. *The Ohio and Pennsylvania R. R. Co. Pennsylvania.* This was a bill filed for an injunction against the Ohio and Pennsylvania Railroad Company to prevent their erecting a depot and running their cars on the South Common in Alleghany city. A number of points were raised in the pleadings and disposed of by the learned Judge before whom the case was argued, but the only one of any very general interest was the question whether the running of cars in the city, and the using of land therein for railroad buildings, depots, &c., was a public nuisance such as to justify the interference of a Court of Chancery. Upon this point we quote a portion of the decision of the court, which was rendered by HAMPTON, P. J. He said:

"What degree of annoyance will constitute a nuisance must always depend on the special circumstances of the case. Certain sounds would be considered *nuisances* by some, and *music* by others. As, for instance, the chiming of church bells, the blowing of horns or trumpets, the lowing of cattle, the sound of the forge hammer, the whistle of the steam engine and the sound of the fife and the drum. And this depends more or less upon the proximity or distance of the different sounds. It is not every annoyance that is actionable, and more especially is this the case in towns and cities, in these modern times of progress and improvement. It does not appear here that the company create any more noise or confusion than is usual under similar circumstances, or than is unavoidable in carrying on the business of their road. To deny to them, therefore, the use of their road, would, in effect, be to exclude all railroads from our towns and cities, after these corporations have chiefly contributed to their construction,—to debar the right to steamboats to land at our wharves, to discharge and receive freight and passengers, to stop the passage through our streets of the hundreds of hacks, omnibuses, drays and carts, necessary to convey freight between the *outer* depots, and drive them round the city limits, to stop all machinery, of every description, propelled by steam, to stop all public markets which produce noise and disturb the citizens residing adjacent thereto, and restrain the use of coal as a fuel because of the intolerable annoyance occasioned by its smoke.

It should be borne in mind that we live in an age and a country of progress and improvement in all the business branches of life. New branches of business are constantly springing up on every hand. The inexhaustible resources and capabilities of the conntry are being rapidly developed by the ingenuity, energy and enterprize of our citizens. The unparalleled increase and improvement in agriculture, commerce and manufactures, demand increased facilities in travel and transportation. These, and many other considerations, require the modification of former rules, and a judicious application of the expansive principles of the common law to the altered condition of the country and the necessities of the public.

These remarks are made for the purpose of showing that what at one time have been held to be nuisances, might not, and, probably, would not be so considered now. Private interest and comfort must often yield to public necessity or convenience. This we apprehend must be the

case here. If the company had authority to construct their road where it is, they are entitled to the ordinary and necessary uses and advantages of their position, and would not be responsible for any unavoidable annoyance or disturbance such uses might cause. To permit and encourage them to build their road at a heavy expense, and then deny them the privilege of using it for the ordinary and necessary purposes of such a work, would be inconsistent with every principle of justice and common sense."

The injunction was refused.

RAILWAY TICKETS. RIGHTS OF PASSENGERS.

It has been recently decided in Scotland that railway tickets can be used only to the stations marked on them, and that passengers have no right to leave at any intermediate station, The question arose on the following fact. It appears that the *whole* fare from Campbleton to Glasgow, by steamer to Ayr and thence by railway to Glasgow, is considerablg *less* than to several of the stations between Glasgow and Ayr, and that persons have been in the practise of taking out Glasgow tickets at Campbleton, and then leaving the train at the intermediate stations, thus paying less than if the had taken tickets to the station where they actually intended to stop. To put an end to this practice, the railway company brought small debt actions against two passengers for the difference of fare between what they actually paid and what they would have paid if they had taken tickets to the station where they actually stopped. Sheriff Anderson before whom the cases were tried, expressed the opinion that, although the Con pany might, if they thought proper, allow passengers to leave the train at intermediate stations no person could demand it as a right, and he so held upon the trial.

LIABILITIES OF RAILROAD COMPANIES. PASSENGER'S NEGLIGENCE.

Penn. R. R. Co. vs. *Aspell. Pennsylvania.* This was an action brought by Aspell to recover damages for injuries alleged to have been caused by the negligence of the Railroad Company. It seems that Aspell was going to Morgan's corner, at which station the train should have stopped, but that owing to some defect in the bell rope the conductor was not able to make the proper signal to the engineer, who, therefore, went past, though at a speed somewhat slackened, on account of the switches which were there to be crossed. Aspell, seeing that he was about to be carried on, jumped from the platform of the car, and was seriously hurt in the foot. He brought this action, and the jury, with the approbation of the Court, gave him fifteen hundred dollars damages. Upon appeal this judgment was reversed. The Court *per* BLACK, C. J. said:

The persons to whom the management of a railroad is entrusted are responsible for every injury caused by defects in the road, the cars or the engines, or by any species of negligence, however slight, which they or their agents may be guilty of; but they are only responsible for the direct and immediate consequences of errors committed by themselves. They are not insurers against the perils to which a passenger may expose himself by his own rashness and folly. If a passenger is negligently carried beyond the station where he intended to stop, and where he had a right to be let off, he can recover compensation for the inconvenience, the loss of time and the labor of traveling back, because these are the direct consequences of the wrong done to him. But if he is foolhardy enough to jump off, without waiting for the train to stop, he does it at his own risk, because this is gross imprudence for which he can blame nobody but himself. If there be any man who does not know that such leaps are extremely dangerous, especially when taken in the dark, his friends should see that he does not travel by railroad. It is true that a person is not chargeable with neglect of his own safety when he exposes himself to one danger by trying to avoid another. In such a case, the author of the original peril is answerable for all that follows. If, therefore, a person should leap from the car, under the influence of a well founded fear of that a fatal collision is about to take place, his claim against the company for the injury he may suffer will be as good as if the same mischief had been done by the apprehended collision itself. When the negligence of the agents puts a passenger in such a situation that the danger of remaining on the cars is apparently as great as would be encountered by jumping off, the right to compensation is not lost by doing the latter, and this rule holds good, even where the event has shown that he might have remained inside with more safety. (See *Stokes* vs. *Saltonstall* 13. Peter's 181.) Did the plaintiff in the present case suffer the injury he complains of by attempting to avoid another with which he was threatened? Certainly not. He was in no possible danger of anything worse than being carried on to a place where he did not choose to go. That might have been inconvenient; but to save himself from a mere inconvenience by an act which puts his life in jeopardy, was inexcusable rashness.

Nor is the plaintiffs' position altered by the fact that the conductor announced the approach of the train to Morgans Corner. It is not negligence in a conductor to notify passengers of their approach to the station at which they mean to get off so that they may prepare to leave with as little delay as possible when the train stops. And we cannot see why such notice should put any man of common discretion in peril. It is scarcely possible that the plaintiff could have understood the mere announcement of Morgans Corner, as an order that he should leap without waiting for a halt. If he did make that absurd mistake it was amply corrected by the earnest warning which he afterwards received both from the conductor and the brakeman.

The Court should have instructed the jury that the evidence, even excluding that for the defense, left the plaintiff without the shadow of a case.

RIGHTS OF OWNERS OF LAND LYING ADJACENT TO RAILROADS.

Alton and Sangamon R. R. vs. Baugh. Illinois. This case arose from a disagreement between the railroad company and Baugh as to the amount of damages due for the companies right of way over Baugh's land. Upon the trial, the Judge instructed the jury that after the assessment and payment of damages, the railroad companies would not be bound to make fences for Baugh on either side of the road, nor would Baugh have a right, without consent of the company, to make cattle guards across the road. Under this instruction the jury found for the plaintiff, assessing his damages at $480. Upon an appeal taken on an exception to this instruction the judgment was affirmed. The court *per* TRUMBULL, J. said.

"We know of no principle of the common law, and there is certainly no statute, which compels one person or corporation to fence the land of another. It was never supposed, when a public highway was laid out, that the owners of lands over which it passed would have any right to require the authority by which it was constructed to inclose it by fences. There is no distinction in principle between the obligation to fence a public highway and a railroad; and the obligation to construct cattle guards, which are a species of fence, is of the same character.

Has then the owner any right, without the companies consent, to make himself cattle guards across or under the road? Upon this point it is clear, that after the condemnation of the land and the payment of damages, the proprietor of the land over which the road passes would be prohibited from placing any obstruction upon it. Now the construction of a cattle guard across or under the road would be an interference, temporarily at least, with the track itself, as it would be necessary to excavate beneath the rails, and while the work was being alone, and the neccessary supports being placed underneath, the road could not be used. To allow this to be done without the consent of the company would be to deprive them, for the time being, of the use and control of their own road, and of the right of way for which they had paid.

The Gold Movements of the World.

The discovery of gold took place in California in 1847, and since that year there has been shipped, up to the close of 1853, and deposited in the United States mints, $230,000,000 worth of gold dust, or in sterling value, £44,000,000.—The whole produce of the California mines in the period is estimated at $260,000,000; $40,000,000 being rather a low estimate for the amount of gold dust taken to foreign countries, used in ornaments and plate, and still uncoined, &c. Official documents give the imports and exports of specie in the United States, approximatively as follows, from 1847, which, be it remembered, was the "famine year," and drew over a large quantity of specie for breadstuffs:

	Imports.	Exports.
1847	$24,121,289	$1,997,739
1848	6,360,224	45,841,620
1849	6,651,240	5,404,648
1850	4,628,792	9,983,898
1851	5,453,592	43,764,210
1852	5,503,544	25,096,255
1853 to December	5,500,000	26,753,356
	$58,218,681	$158,841,726

The "imports" of 1853 are assumed, as we have not the complete figures before us. Gold dust, amounting in value to forty-four million pounds sterling was, therefore, received in the United States up to the close of that year, and specie to the extent of nearly twelve millions more; against this, shipments of specie, amounting to £31,770,000 were made to Europe. Last year California exported gold to the value of sixty millions of dollars, or upwards of £12,000,000 sterling; and the yield, judging from the monthly shipments this year, continues to be steady, with only such slight fluctuations, as weather, want of water or excess of it, may occasion. In a gold producing country, the export of gold dust and bullion is a part of its legitimate trade, and the fact of such continuous export is no proof that the balance of trade is

against the country, whilst the average production of the staple is maintained. The specie in the United States banks in January this year, was sixty million of dollars, and there was also twenty-five millions in gold and silver in the treasury offices, and certainly more gold and siver in general circulation among the peoply than at any previous period. The exports of specie to foreign countries, from New York, were, as we have seen, in round numbers, £2,000 000 sterling, in 1850; £8,850,000 in 1851; £5,000,000 in 1852; and £5,-400,000 in 1853. The shipments from other United States ports are very inconsiderable; a little is exported occasionally from Boston and Philadelphia.

Judging from the stock of gold in England as coin and ingots—stated at about £70,000,000—it appears probable that £250,000,0000 sterling would nearly represent the gold existing in Europe at the period of the discoveries in California and Australia; which, together with Russia (since 1838,) now constitute the main general sources of supply. Some authorities, however, rate the coin and bullion in the world in 1850, as high as £600,-000,000 gold, and of silver at £1,200,000,000. M. Leon Faucher considers France possesses silver to the value of £134,000,000 sterling, of which 150 millions consist of coin; and the gold coinage belonging to France is probably not less than thirty millions sterling. It is supposed that the gold and silver in the United Kingdom is from fifty to sixty millions sterling. In the seventy years endimg 1847 (deducting the re-coinage from light gold) our average yearly gold coinage was rather more than two and three quarter millions sterling. The following return shows the amount coined in the principal States in the last six years.

Country.	Three years ending 1850.	Three years ending 1853.
Great Britian	£6,121,790	£25,095,072
France	7,302,000	23,911,536
Austria	1,566,422	2,982,885
United States	8,953,001	34,269,911
Indian Presidencies	151,736	186,270
Prussia	707,703	36,798
Spain	683,131	121,707
	25,485,783	86,605,177
		25,475,783
Total		£112,090,960

Of this about £18,150,000 were re-coinage.

In 1853 there was coined in the three principal mints of the world—London, Paris and the United States—£35,548,803 worth of gold, and more than £3,000,000 worth of silver. With all this enormons amount of coinage, the increase of foreign trade and the great activity of productive industry, cause a steady demand for further metallic currency; and coinage is absorbed and distributed in a manner unparalleled in any former period of the world. The following statement from the *Bankers' Circular* shows the quantities of gold received and delivered by the Bank of England, in the bullion department, in the last four years. It does not represent the actual purchases and sales of specie by the bank, but only the amount deposited and withdrawn on merchants account:

	Gold Received.	Gold Delivered.
1850	£5,936,956	£3,635,203
1851	13,379,674	3,486,500
1852	18,720,866	4,722,173
1853	15,332,098	14,057,352
Total	£53,372,594	£26,001,228

The highest amount of bullion and coin held by the bank in both departments last year, was on the 1st of January—being £20,527,662, against £21,845,390, the highest stock in the previous year, viz; on the 10th July. The lowest amount last year was £14,960,206 on the 22d October against £12,608,895, which was the lowest amount held in 1851.—Silver being only a legal tender for small amounts in this country, beyond exigencies of our small coinage, there is no inducement to accumulate it here, in consequence of gold being the standard of valne. Hence we find that about 20¼ million pounds sterling of silver which found its way to the bank vaults in the four years ending 1853. the whole flowed out again to India, and China and France, where it constitutes the monetary standard.

According to a statement of the exports of bullion from London last year, compiled by Messrs. Haggard & Pixley, the quantity shipped amounted to about 21 1-4 million pounds sterling, of which 5 3-4 millions were in silver, and the remainder gold. The whole of the silver—except £530,000 sent to the continent—went to India, China, and Mauritius. The shipments of gold were in round numbers £4,000,000 to Australia and New Zealand £9,500,000 to the continent; £1,-000,000 to the Mediterranean; £375,000 to the West Indies; £286,000 to the Brazils, and £105,-000 to Africa. In the first six months of the present year, specie of the value of £2,373,014 has been shipped to the Mediterranean ports and the East, of which £1,858,347 was in silver.

In 1853, 2,545,260 ounces of gold were shipped from Victoria (nearly all of it to this country,) of the aggregate value of £10,181,040, and there still remained in the local banks deposits and balances of the value of £9,316,810, and specie and bullion amounting to £4,336,030. The specie imported into Melbourne and Geelong, in 1853, is stated at £2,400,000; a much larger quantity of coin we have, however, seen was sent to Australia ports, but portions of it would not arrive till 1854. Last year, 624,947 ounces of gold, worth about £2,409-783, were exported from Sydney, and 50,000 ounces remained in private hands. The city banks also held deposits and balances to the extent of £5,115,699. The discovery of the auriferous character of the soil of Australia took place in July, 1851, and from that period to the close of 1853, there has been shipped more than £27,000,000 worth of gold. Well informed Colonial authorities estimate the produce of the Australian gold mines up to the close of 1853, at £29,600,000. The whole quantity exported from Australia may be thus clearly stated:

	Ounces.
From New South Wales	1,625,256
From Victoria	4,617,818
Total	6,243,084

worth, at say £4 the oz., £24,972,336. This is only what is officially recorded as shipped; a great quantity has also been brought home privately by passengers and we should not be far wrong in estimating this amount at £8,000,000 more: besides which there remains to be taken into consideration the quantity remaining in hand in the various Australian settlements, and Van Diemen's Land and New Zealand.

We find then despite the large production of gold, no one country has been able to retain permanently any considerable hoard of the precious metals. Out of the £30,000,000 raised in our Australian colonies, and shipped to England within the last two or three years, we have a stock in the bank of England scarcely as large as we had previous to the gold discoveries, and our monetary requirements are more stringent than ever. The United States, although parting with only £32,-000,000 out of the £56,000,000 received, find the balance of coin shipping out of their hands in a continuous stream. The European States and the Eastern countries seems to be profiting most by the absorption of bullion. The void in the metallic currency of the most of the continental nations is filling up, and depreciated paper currency has been to a great extent withdrawn. Still, like quicksilver, you can scarcely follow the movements of specie, for it travels almost as rapidly from place to place, as the electric fluid.

The requirements of the great European Powers for the war now carrying on, make heavy inroads on the supplies of coin and bullion, and serve to alter materially the usual flow of the metalic tide. But these unusual circumstances must re-act hereafter, and throw back the metallic currency into the chief centres of manufacturing production. The Bank of France had in 1844, £10,-885,000 of bullion in its coffers, which increased to £25,890,042 in June, 1852, and has decreased from that date to £13,480,255 at the last return, issued early in May this year. The Bank of England has at present little more than £14,000,000 of specie in its vaults, whilst the demand on it for discounts was never so continuously heavy. The United States Banks have little more than £12,-000,000 sterling in specie, besides £600,000 locked up in the Government Treasury. Every commercial country seems, therefore, as bare of coin and bullion as before the gold discoveries; and instead of repletion, there are general complaints of scarcity.

Such are the more salient features of the vast picture presented by the oscillations of this important metallic current, which ramifies and extends its fructifying stream over the civilized world; here moving in headlong force until the magnified torrent rolls its waters over the chief food-producing and manufacturing centres of the globe; and there gushing forth in tiny rills and gentle rippling streams, scarcely appreciable, so that it becomes difficult to follow it in cycle of its never-ending rotation.—*London Gazette.*

Railway Traffic Returns.

Great Western of Canada 229 miles.

Earnings for week ending August 11th.

From Passengers	9,978
" Freight	2,835
" Sundries	1,032
	$13,845
Number of Passengers	6,089
Total since 1st Jan. 1854	$604,819
" Passengers "	209,654

Grand Trunk Line of Canada 292 miles.

Earnings for week ending July 29d.

From 4,707 1st class passengers	5,171
" 442 2d " "	824
" 1,657 tons mdze	5,341
" 553 M. feet lumber	1,905
" 1,630 cords firewood	2,230
" Mails &c	779
Total	$15,750
Total from July 1st 1854	$69,065

The Public Lands.

Up to the 30th June, 1853, there had been donated to thirteen new States and four Territories.

	Acres.
For certain public purposes	123,062,451
Total amount of sales up to same date	108,197,356
Excess of grants over sales	19,865,095
Grants for military services	24,841,980
Total excess of grants over sales	44,707,075

These statistics apply exclusively to the New States, the old States having received nothing. The grants of lands to the Illinois Central, and Mobile and Ohio Railroad were:

	Acres.
In Illinois	2,595,053
In Mississippi	737,150
In Alabama	419,528
Total	3,751,711

Reserved to be offered at double price, $2 50 per acre:

In Illinois	1,223,921
In Mississippi	288,495
In Alabama	167,045
Total	1,651,874

The land granted, amounts at Government price to $4,689,639; from July 1st, 1852, to December 30th, 1853, one year and three months, there were

sold of the reserved lands 284,000 acres, yie $610,000 not one-seventh part of the minimum value of the lands granted for the road.

American Railroad Journal.

Saturday, August 19, 1854.

Harlem Railroad.

A convention of the stockholders of this road was held in this city on the 15th inst., for the purpose of hearing the report of the investigating committee, and of taking action in reference to the recent over-issues of stock by the transfer agent. The meeting was a very full one, the feeling very strongly in favor of assuming the fraudulent issues, and resolutions passed to that effect. We have not room for the report this week, but will give it, or the substance of it, in our next issue.

Stock and Money Market.

The past has been a very inactive week in Wall street. At all times, the present is the dullest season in the year. Prices fluctuate considerably without any material improvement. The market will probably remain pretty much as it is till the commencement of the fall operations.

We publish below the earnings of several companies for the month of *July*. They show a large increase over the past year, notwithstanding, the wide spread sickness, and general stagnation of business. Under all the circumstances the receipts are entirely satisfactory, and prove the earnings of our roads to be in a great measure independent of the ordinary fluctuations of business.

The Bank returns for the week ending July 12th, show the following result:

	Loans.	Specie.
Aug. 5th, 1854	$93,723,141	$14,468,981
Aug. 12th, 1854	93,435,057	13,522,023
Decrease	$288,084	$946,958
	Circulation.	Deposits.
Aug. 5th, 1854	$9,124,648	$76,378,487
Aug. 12th, 1854	8,917,179	74,626,389
Decrease	$207,469	$1,752,098

EARNINGS OF RAILROAD FOR JULY.

Ohio and Pennsylvania Railroad.

Receipts in July, 1854	$75,626 07
Receipts in July, 1853	56,728 01
Increase, 33 per cent	$18,898 06

This road has been completed and in operation some eighteen months.

Baltimore and Ohio Railroad.

	Main Stem.	Wash. Br.	Totals.
For passengers	$41,404 05	$24,140 65	$65,544 50
For freight	228,810 05	6,088 90	234,898 95
Total	$270,214 10	$30,229 55	$300,443 65

As compared with the corresponding month of last year, the result is as follows:

	Main Stem.	Wash. Branch.
July, 1854	$270,214 10	$30,229 55
July, 1853	164,140 42	27,170 85
Increase	$106,073 68	$3,058 70

Michigan Central Railroad.

	Passen's.	Freight.	Mis.	Totals.
1854	$82,531	$37,319	$8,531	$123,382
1853	65,896	31,626	6,018	103,542
Increase	$16,634	$5,693		$19,840
Decrease			$2,487	

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of $100.

NAME OF COMPANY.		Miles open.	Capital paid in.	Debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for do.	Price of Shares.
Atlantic and St. Lawrence	Maine.	150	1,538,100	2,973,700	5,973,700	254,748	113,520	none	86
Androscoggin and Kennebec	"	55	824,363	1,043,540	2,036,140	177,003	80,053	none	82
Kennebec and Portland	"	72	1,073,673	1,439,694	2,520,981	168,114	100,552	none	42
Port., Saco and Portsmouth	"	51	1,355,500	123,884	1,459,384	208,669	.....	6	95
York and Cumberland	"	20	285,747	341,100	713,605	23,946	11,256	none	24
Boston, Concord and Montreal	N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	27
Concord	"	85	1,485,000	none.	1,485,000	305,805	141,836	8	105
Cheshire	"	54	2,078,625	720,900	3,002,094	287,768	55,266	5	35
Northern	"	82	3,016,634	.....	.....	328,782	163,075	5	49
Manchester and Lawrence	"	24	717,543	.....	.....	.....	.....	6	88
Nashua and Lowell	"	15	600,000	none.	651,214	132,545	51,513	8	104
Portsmouth and Concord	"	47	.....	.....	1,400,000	.....	.....	none	....
Sullivan	"	26	.....	.....	673,500	.....	.....	none	10
Connecticut and Passumpsic	Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	21
Rutland	"	120	2,486,000	2,429,100	5,577,467	495,397	266,589	none	9
Vermont Central	"	117	8,500,000	3,500,000	12,000,000	.....	.....	....	5½
Vermont and Canada	"	47	1,500,000	.....	1,500,000	Leased to the Vt. C		ent.	82
Western Vermont	"	51	392,000	700,000	.....	Recently	opened.	none	....
Vermont Valley	"	24	.....	.....	.....	.....	.....	none	....
Boston and Lowell	Mass.	28	1,830,000	206,190	2,044,536	434,599	114,098	6	81
Boston and Maine	"	83	4,076,974	150,000	4,111,345	803,024	418,358	8	100
Boston and Providence	"	55	3,160,000	402,326	3,579,041	509,326	226,639	6½	77
Boston and Worcester	"	69	4,500,000	590,541	4,850,754	887,219	413,289	7	96½
Cape Cod branch	"	29	421,950	180,000	633,906	68,942	26,412	5	40
Connecticut River	"	52	1,591,110	286,363	1,802,244	258,220	102,098	4	52
Eastern	"	58	2,850,000	1,192,975	3,120,391	620,810	310,875	6	65
Fall River	"	42	1,050,000	6,208	1,050,000	294,183	126,589	8	90
Fitchburg	"	67	3,540,000	191,500	3,716,870	626,659	214,633	6	85½
New Bedford and Taunton	"	20	500,000	none.	529,964	188,442	46,839	7	117
Boston and New York Central	"	74	1,159,228	953,370	2,221,068	90,315	35,214	none	50
Old Colony	"	45	1,964,070	295,038	2,293,534	374,897	122,866	none	92½
Taunton Branch	"	11	250,000	none.	307,136	159,738	21,490	8	....
Vermont and Massachusetts	"	77	2,233,939	1,139,615	3,207,818	244,323	13,144	none	11½
Worcester and Nashua	"	46	1,140,000	194,445	1,342,593	182,398	81,807	5	60
Western	"	155	5,150,000	5,319,520	9,953,258	1,525,224	746,736	6	93½
Stonington	R. I.	50	.....	467,700	.....	240,572	110,892	....	67
Providence and Worcester	"	40	1,457,500	300,000	1,791,999	291,417	120,892	6	97
Canal	Conn.	45	922,500	500,000	1,400,000	.....	.....	4	65
Hartford and New Haven	"	72	2,350,000	800,000	3,150,000	639,529	294,269	10	116
Housatonic	"	110	.....	.....	2,500,000	329,041	168,902	none	....
Hartford, Prov. and Fishkill	"	50	.....	.....	In progres	69,629	.....	none	....
New London, Wil. and Palmer	"	66	558,861	800,000	1,511,111	114,410	.....	....	....
New York and New Haven	"	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	....
Naugatuck	"	62	926,000	440,000	.....	.....	.....	8	....
New London and New Haven	"	55	750,500	650,000	1,380,610	Recently	opened.	none	40
Norwich and Worcester	"	54	2,121,110	701,600	2,596,488	267,561	116,965	4	50
Buffalo and New York City	N. Y.	91	900,000	1,550,000	2,550,500	Recently	opened.	none	....
Buffalo, Corning and N. York	"	132	.....	.....	In progres	.....	.....	none	....
Buffalo and State Line	"	69	879,636	872,000	1,921,270	Recently	opened.	....	130
Canandaigua and Niagara F	"	50	.....	.....	In progres	.....	.....	....	....
Canandaigua and Elmira	"	47	425,509	582,400	987,627	76,760	39,360	none	....
Cayuga and Susquehanna	"	35	687,000	400,000	1,070,786	74,241	23,496	none	....
Erie, (New York and Erie)	"	464	10,000,000	24,003,865	33,070,863	4,318,962	1,800,181	7	45½
Hudson River	"	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	52
Harlem	"	130	4,725,250	977,463	6,102,935	681,445	324,494	4	....
Long Island	"	95	1,875,148	516,246	2,446,391	205,968	44,070	none	28
New York Central	"	504	23,085,600	10,773,823	33,859,423	.....	.....	....	91½
Ogdensburgh (Northern)	"	118	1,579,969	2,969,760	5,133,834	480,137	195,847	....	10
Oswego and Syracuse	"	35	350,000	206,000	633,598	92,353	46,072	....	....
Plattsburg and Montreal	"	23	174,042	131,000	349,775	Recently	opened.	none	....
Rensselaer and Saratoga	"	25	610,000	25,000	774,495	213,078	96,787	....	....
Rutland and Washington	"	60	850,000	400,000	1,250,000	Recently	opened.	....	....
Saratoga and Washington	"	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland	"	82	237,690	100,000	329,577	Recently	opened.	....	38
Troy and Boston	"	39	430,936	700,000	1,043,357	Recently	opened.	none	....
Watertown and Rome	"	96	1,011,940	650,000	1,693,711	225,152	116,706	8	92
Camden and Amboy	N. J.	65	1,500,000	.....	4,327,402	1,888,385	478,418	10	148
Morris and Essex	"	45	1,022,420	128,000	1,220,325	149,941	79,252	7	....
New Jersey	"	31	2,197,840	476,000	3,245,720	603,942	316,259	10	131
New Jersey Central	"	63	986,106	1,500,000	2,379,880	260,899	124,740	3	....
Cumberland Valley	Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	....
Erie and North East	"	20	600,000	.....	750,000	Recently	opened.	....	125
Harrisburgh and Lancaster	"	36	830,100	713,227	1,702,523	265,327	106,820	8	55
Philadelphia and Reading	"	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	62
Philad., Wilmington and Balt.	"	98	5,000,000	2,899,166	8,067,285	868,038	541,769	5	68½

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of $100.

NAME OF COMPANY.		Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central	Penn.	250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	....	97
Philadelphia and Trenton	"	30	....	....	....	....	....	....	....
Pennsylvania Coal Co	"	47	....	....	....	....	....	....	102¼
Baltimore and Ohio	Md.	381	13,118,902	5,677,103	22,254,338	2,033,420	798,193	7	50
Washington branch	"	38	1,650,000	....	1,650,000	348,622	216,237	8	....
Baltimore and Susquehanna	"	57	....	....	....	413,673	152,536	....	..
Alexandria and Orange	Va.	65	....	....	In prog.	....	....	....	....
Manassas Gap	"	27	....	....	In prog.	....	....	....	....
Petersburgh	"	64	769,000	173,867	1,163,928	227,593	72,370	7	77
Richmond and Danville	"	73	1,372,324	200,000	In prog.	....	....	....	70
Richmond and Petersburgh	"	22	685,000	....	1,100,000	122,861	74,113	none	40
Rich., Fred. and Potomac	"	76	1,000,000	503,006	1,531,238	254,376	113,256	7	100
South Side	"	62	1,357,778	640,000	2,106,467	62,762	....	....	....
Virginia Central	"	107	1,673,684	469,150	2,392,215	210,052	99,077	10	50
Virginia and Tennessee	"	73	2,650,091	707,958	3,545,256	109,268	42,786	none	98
Winchester and Potomac	"	32	180,000	120,000	416,532	89,776	....	12	....
Wilmington and Raleigh	N .C.	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	....
Charlotte and South Carolina	S. C.	110	....	....	....	....	....	....	....
Greenville and Columbia	"	140	1,004,231	500,000	In prog.	....	....	....	....
South Carolina	"	242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester	"	...	....	....	In prog.	....	....	....	....
Georgia Central	Ga.	191	3,500,000	418,187	3,465,879	986,074	535,608	8	116
Georgia	"	211	4,000,000	1,214	....	934,424	456,468	7½	....
Macon and Western	"	101	1,013,088	163,000	1,277,334	278,739	149,960	9	101
Muscogee	"	71	....	....	In prog.	59,590	21,731	....	....
South Western	"	50	586,887	150,000	743,525	129,395	71,535	8	....
Alabama and Tennessee River	Ala.	55	....	....	In prog.	....	....	....	....
Memphis and Charleston	"	93	776,259	400,000	In prog.	....	....	....	....
Mobile and Ohio	"	33	879,868	....	In prog.	....	....	....	....
Montgomery and West Point	"	88	688,611	....	1,330,960	173,542	76,079	8	....
Southern	Miss.	60	....	....	....	....	....	....	....
East Tennessee and Georgia	Tenn.	80	835,000	541,000	In prog.	....	....	....	....
Nashville and Chattanooga	"	125	2,093,814	850,000	In prog.	....	....	....	....
Covington and Lexington	Ky.	38	1,430,150	900,000	In prog.	....	....	....	63
Frankfort and Lexington	"	29	357,218	....	584,902	87,421	44,250	....	80
Louisville and Frankfort	"	65	....	....	....	....	....	....	....
Maysville and Lexington	"	...	....	....	In prog.	....	....	....	45
Cleveland and Pittsburgh	Ohio.	100	1,979,100	1,142,200	3,279,908	432,682	267,278	10	59
Cleveland and Toledo	"	147	2,000,000	1,600,000	....	....	....	..	77¼
Cleveland, and Erie	"	95	....	....	....	....	....	....	....
Cleveland and Columbus	"	135	3,027,000	408,200	3,655,000	777,793	483,454	12	100
Columbus, Piqua and Indiana	"	46	....	....	2,000,000	....	....	....	65
Columbus and Lake Erie	"	61	....	....	....	....	....	....	....
Cincinnati., Ham. and Dayton	"	60	2,100,000	500,000	2,659,653	321,793	200,967	....	102¼
Cincinnati and Marietta	"	...	....	....	In prog.	....	....	....	62
Dayton and Western	"	40	310,000	550,000	925,000	Recently	opened.	....	75
Dayton and Michigan	"	20	....	....	In prog.	....	....	....	....
Eaton and Hamilton	"	36	....	....	....	....	....	....	56
Greenville and Miami	"	31	....	....	....	....	....	....	....
Hillsboro	"	37	....	....	In prog.	....	....	....	....
Little Miami	"	84	2,668,402	482,000	3,169,733	667,559	352,133	10	111
Mansfield and Sandusky	"	...	900,000	1,000,000	1,855,000	....	....	....	....
Mad River and Lake Erie	"	167	2,387,200	1,767,000	4,110,148	540,518	113,401	....	77½
Ohio Central	"	57	....	....	In prog.	....	....	....	79
Ohio and Mississippi	"	...	....	....	"	....	....	....	....
Ohio and Pennsylvania	"	187	1,750,700	2,450,000	....	Recently	opened.	....	....
Ohio and Indiana	"	...	....	....	In prog.	....	....	....	....
Scioto and Hocking Valley	"	44	750,000	300,000	"	Recently	opened.	....	....
Columbus and Xenia	"	54	1,291,700	26,000	1,310,062	314,434	168,612	10	107
Evansville and Illinois	Ind.	31	....	....	In prog.	237,506	....	....	....
Indiana Central	"	...	....	....	"	....	....	....	77½
Indiana Northern	"	131	....	....	"	....	....	....	....
Indianapolis and Bellefontaine	"	83	....	....	"	Recently	opened.	....	90
Indianopolis and Cincinnati	"	90	1,128,486	1,289,000	1,869,932	Recently	opened.	....	76
Lafayette and Indianapolis	"	62	....	....	....	....	opened.	....	....
Madison, Indianapolis & Peru	"	159	2,647,700	1,241,300	2,400,000	516,414	268,075	10	32
Terre Haute and Indianapolis	"	72	632,387	663,100	1,353,019	105,944	71,446	4	108
Rock Island and Chicago	Ill.	...	....	....	....	....	....	....	....
Chicago and Mississippi	"	135	2,400,000	4,000,000	4,600,000	....	....	....	....
Illinois Central	"	...	....	....	....	....	....	....	....
Galena and Chicago	"	92	....	500,000	In prog.	473,548	286,152	....	123
Michigan Southern and Ind. N.	Mich.	315	....	3,741,564	7,276,616	1,200,922	586,929	17	94
Michigan Central	"	282	....	3,977,563	8,618,505	1,145,598	582,816	8	87
Pacific	Mo.	38	....	non	In progres	Recently	opened.	....	....

Michigan Southern.

Passengers and Mails	$78,813 10
Freight and Miscellaneous	41,608 85
Total	$120,421 45
Earnings July, 1853	107,568 45
Increase	$12,853 00

Cleveland and Pittsburg Railroad.

Passengers	$18,440 48
Freight	16,712 38
Mail and Express	1,491 00
Total	$36,643 81
The receipts for July, 1853, were	34,373 08
Increase	$2,270 73

Pennsylvania Railroad.

For the month ending July 31, 1854.	$209,299 37
Same month last year	157,244 90
Increase	$52,054 97
Receipts from Jan. 1, 1854, to July 31, 1854	$2,125,348 57
Same period last year	1,608,376 58
Increase	$516,971 99

Milwaukee and Mississippi.

	1853.	1854.
Passengers	$8,376 79	$16,099 95
Freight	7,800 21	19,474 79
Total	$16,177 00	$36,574 74

Increase this year, $19,397 74.

Indiana.

We learn from the Evansville, and Indianapolis papers, that the graduation on the Straight Line Railroad, designed to connect the important cities of the State, through the extensive South, White River Valley is progressing well, with a heavy force, the company having concentrated their hands on the division of 54 miles of the road between Evansville and the Ohio, and Mississippi Railroad, which when constructed will connect the Ohio river at Evansville by the shortest possible route with New Albany, Jeffersonville, Louisville, Madison, Lawrenceburgh, and Cincinnati, and when the whole line is finished it will be only about 150 miles from Evansville to Indianapolis, while by river it is over 200 miles from Evansville to New Albany, the terminus of the first railroad, above Evansville. The company, the papers state, have met their estimates promptly in the midst of the money pressure, and appear to be moving forward with the proper care, and energy, to justify the most favorable results.

The Iron Foundries of Pittsburg.

It is said that there are now in Pittsburg thirty-eight iron foundries. of which nine are almost exclusively employed in the manufacture of steam engines, and twenty-nine in the manufacture of various kinds of hollow ware, machinery, &c. The foundries which are employed in the manufacture of steam engines consume yearly 3,200 tons of wrought iron, 9,200 tons of pig, employ 640 men, and produce 120 steam engines every year. Their net capital is $549,000. The heaviest establishment among the other foundries is the Fort Pitt Works. At this establishment there were built some years since two iron steamers of four hundred tons each, and a revenue cutter which latter craft is still in existence upon Lake Ontario. In 1853, the Fort Pitt Works consumed 2,225 tons of pig iron, and 1,000 tons of wrought iron, and employed 260 hands. They are now engaged on a government order for 21 guns, called Columbiads, having a ten inch bore, and throwing a 124 pound shot. It is estimated that the total amount of pig iron, blooms and scraps, annually consumed in Pittsburg, is at least equal to 127,375 tons.

Ogdensburg, Clayton and Rome, and Black River and Utica Railroads.

One of the most essential members of the railroad system of the State of New York is a direct connection between New York City and the St. Lawrence River, and commanding the Ottawa country of Canada, beyond. One of the most available and convenient routes for such a connection lies in the Black River Valley. The agricultural capabilities of Lewis, Jefferson and St. Lawrence counties have turned attention to the merits of this route, and have enlisted an ample share of enterprize for its immediate occupation by a first class railroad. The fact that *two* projects for such a purpose are already pressing their claims, in opposition to each other, is sufficient proof of the appreciation in which this connection is held, and relieves us from urging the *necessity* or *utility* of its construction.

In January, 1853, a company was organized to construct a railroad from Utica to Clayton, passing Boonville, and thence intersecting the principal towns in the Black River Valley. A connection with Ogdensburg was also determined upon. In April of the same year, an independent interest, identified with the village of Rome, organized for the construction of a road from that place, having the same general direction and objects as the first, but entering the Black River Valley at Boonville, 23 miles from Rome, and 34¾ miles from Utica Both roads have completed surveys, and let out their entire lines to contract. Both roads have issued reports, describing almost identical routes, announcing nearly the same progress of construction, and claiming, each for itself, precisely the same results when finished.

In the present attitude of these companies, with respect to that portion of their lines lying north of Boonville, we can discover no grounds for a contest of superiority, for, both roads having identical routes and objects, have *equal* claims, but necessarily subject to perpetual collision, involving eventually the existence of one or the other.

The only room for *independent* action by these companies is upon those portions of their roads lying south of Boonville. It is only upon these portions where the two schemes are entitled to *comparison*. From Utica to Boonville, by the Black River and Utica Railroad, is 34¾ miles, having maximum grades going north of 66 feet. From Rome to Boonville by the Ogdensburg, Clayton and Rome Railroad is 23 miles, with maximum grades going north of 49 feet, and a whole rise and fall some 200 feet less than on the other route. As *independent* geographical points Rome appears to be superior to Utica as the terminus of the Black River Valley road. Rome and Utiba are 14½ miles apart, and when considered in their *relative* position to other points, we find Boonville to be but 2¾ miles nearer Albany by the Utica than by the Rome road, while Buffalo would be 26½ miles *further distant*, a result which gives a decided superiority to Rome over Utica.

Beyond Boonville, the description furnished by the Black River and Utica Company will apply to the general route occupied. The line of road passes Turin, Lowville, Carthage, Philadelphia (from whence a branch runs to Ogdensburg), Theresa, and terminates at Clayton opposite the "Thousand Islands" of the St. Lawrence. Ogdensburg would be 93 miles from Boonville, and 128 from Utica. Clayton would be 78¾ miles from Boonville, and 108½ from Utica. For all the distance, the grades are not more unfavorable than those of the Northern Railroad of New York, except south of Boonville, and in the descent of the heaviest tonnage. The route is generally very favorable.

While *one* road is necessary for the accommodation of that part of the country, we feel certain that the two companies, now claiming, each for itself, the *entire route*, will have to appear *jointly* to receive any pecuniary assistance for which they may, like other roads, be compelled to apply. After the strength of local means have become exhausted, each road will be in the worst shape to apply for help. Indeed, we can hardly believe but that a compromise is contemplated by *both* companies, although their reports contain no allusion to it, and in fact ignore each other's existence.

Whether the reputed fact of being in process of construction is stated by each road, to intimidate the other, or whether each company has full faith in its own scheme, even if immediately exposed to competition, we do not know; but we fully believe that *one-half* of the aggregate cost of *two* coincident roads will be a sacrifice beyond remedy. We hope soon to hear of the discontinuance of *one* of the two projects, except where independent in location, as we are well aware that the community on the line is unable to build and support two rival works, and the result will only bring loss and discredit where harmonious action would insure ample profit, and preserve the integrity and honor of the railroad interest generally in the northern part of New York.

Municipal Improvements.

It is not, comparatively, a long time since New York has realized the influence of railroads in their immediate effects upon her business. It is not above two years since the Erie and Hudson River roads have attained a position to accomplish *results*, such as could be felt and appreciated in our city. Yet in this time they have affected the relative social position of the inhabitants of the two sides of the town. They have established a preference for the west over the east side, for purposes of residence, business, instruction and amusement. And in a more general view, they have brought us in closer connection with the entire country, thereby indentifying our own growth with that of the whole nation.

The position of our great trunk lines of railroad, and their relation to our municipal progress, imposes upon our city the duty of initiating a system of improvements in the arrangement and connections of some of our principal streets. Essential and valuable as our railroads are, they are comparatively out-of-the-way affairs, so far as local access is concerned. Our street-system was not planned at the first, nor has it been subsequently modified, with any reference to the intrusion of railroads. No great *central* business depot was ever anticipated, as every foot of our water front is available for the receipt or delivery of merchandize. But under the new dispensation of the railroad system, wherein our business, proprietary and social interests are every day more involved, we need a corresponding street system.

We have once or twice called attention to a system of improvements for the lower part of the town, but have never attempted to demonstrate their ultimate influence upon our internal movements. One point we have urged is the necessity of more streets in the direction of the *length* of the business part of the town—more longitudinal thoroughfares. The need of such is obvious. Our city, by its position, is traversed by *belts*, or *zones*, devoted to different social occupations. Shipping, banking, wholesale and retail trade, boarding and lodging houses, residences and manufacturing, although nowhere entirely distinct and separate from each other, occupy specific and defineable limits, and may be regarded as *superposed strata* or "courses," in the longitudinal arrangement of the city. It is not *within* any *one*, but between *different* sections of this system that the greatest share of internal movement must exist. And yet, with any reasonable number of cross streets, Broadway is the only continuous longitudinal thoroughfare of the whole city. The pressure of travel in this street, and the absurd mutilations proposed for its relief, ought to awaken our entire population to the necessity of extensions and connections between the parallel streets. We do not and cannot consider an *elevated* railroad as more appropriate to Broadway than an elevated aqueduct, navigated by steamboats. A railroad, *level* with the street, and the exclusion of omnibusses, would relieve much of the pressure, but no plan except extending and connecting the parallel streets will afford general and complete accommodation.

It seems reproachful to our public spirit that Crosby street, having a length equal to all of Broadway below the Park, and a width equal to Chesnut street in Philadelphia, or Washington street in Boston; having an even grade, and being but a short block from Broadway, should commence and end so abruptly in Howard and Bleeker streets. As it is, what travel seeks it, except destined within it? Open it into Canal street at the lower end, and into Lafayette place, and extend this connection to the Bowery, at the other, and we have a fine street, offering attractions for a large share of the travel now crowded upon Broadway. By its proximity to the latter street it ought at least to answer as an *omnibus route*.

Open such a street, and its extension would be required through the rum-stricken regions lying between Leonard, Anthony and Pearl streets, and thence to the Park. A narrow court already extends two blocks out of Canal street, at the corner of the New Haven Railroad Station.

Such a scheme of improvement would direct attention to the insufficient width of Nassau street, and if property owners and the city could agree upon the most necessary improvement to be effected by widening that street, we should have a capacious and noble highway from the lower end of the Island, through Broad, Nassau and Crosby streets to Union Place. The "Park," with its meagre attractions, and antiquated public buildings would be the only *break*. But if our citizens could forget the *habit* by which they have associated this uninviting enclosure with the idea of the central institution of the town, they would permit a passage for the proposed street, and consider the proposition for a noble Municipal hall on Madison square.

Such a plan of improvement would be worthy of our city, and would be more than paid for in the immediate improvement of real estate in the

three streets thus linked together. We would christen it "Union Avenue."

We have long held the opinion that the foot of Canal street is the proper point for the great Metropolitan railroad depot of the city. It is a point which, with a little improvement, may be said to command the whole town. We regard the ultimate extension of Canal street to the East River as certain, while we also look upon the extension of the Sixth Avenue to the foot of Canal, as a most essential improvement, and likely to be carried out. The lines of city railroads already established are well calculated to meet this point. A passenger arriving at Canal Street could proceed directly by the city lines of horse cars to any point on West street, Broadway, the Sixth, Eighth or Ninth avenues, Bowery, Hudson street, "Union Avenue," and indeed to any principal street in the city. From the foot of canal, the Sixth avenue, Spring and Canal streets, would radiate towards the center of the town, including all the metropolitan attractions and facilities within a short range. On the water, the Collins steamships long since established their station at the foot of Canal street, while the concentration of railroad travel upon that point would attract the California and New Orleans steamers and probably the French and German steamships to adjoining docks. A ferry is already established to Hoboken, and another regular ferry would be required immediately to Jersey City. The Erie railroad company would probably find it for their interest to run their boats to Canal as well as Duane streets.

It is also worthy of remark that the terminu of the proposed "West side" ailroad to Albany, and the ultimate terminus of the Syracuse and Newburgh road, if built, would be at Hoboken, directly opposite.

Within Canal street, and but a short distance from the end lying upon the North River, would be the tracks and stations of the Harlem and New Haven Railroads. So it is seen, that an inconsiderable extension of one or two streets, would centralize the Hudson River, New York Central, New York and Erie, New Jersey, New Haven, Harlem and West side Railroads, the Liverpool, Havre, Bremen, California and New Orleans steamers, and the ferries to Jersey City and Hoboken;—landing all of their travel near Broadway, and close by all of the large hotels and the temples of taste and fancy with which that noble thoroughfare is lined.

We declare that such an arrangement is needed, and that New Yorkers should anticipate the noble destiny of their great city by urging it to consummation. It is not the object merely to centralize all the travel entering the city, but to afford it proper accommodation, such as is now denied to it by the contracted and crowded facilities at the lower end of the town. Room for the accommodation of all the travel entering our city can be provided at the foot of Canal street, and the same travel could be better distributed from that point than elsewhere.

The Erie railroad pier at the foot of Duane street is always crowded with freight, and must yet absorb all the dock and pier accommodations for a long distance above and below. Nothing would attract travel for the Erie road more than making its passenger terminus, with other roads, at the point we have indicated, and nothing would tend so much to the establishment of the commutation ticket system on a liberal scale, as the certainty of a supply of travel from the central depot of the city, opposite the Jersey terminus of their road.

The present terminus of the Erie road in a necessary and convenient one for freight entering or leaving the city. It is the vast extent of this business which requires that it shall be separated from the passenger movement. The value of the position of this depot would be greatly enhanced, as well as the internal convenience of the city promoted, by the extension of Mercer street, across Canal, Lispenard, Walker, White and Franklin streets, and into Erie place, adjoining the Erie Railroad depot. At the upper end of Mercer street a short extension would complete a connection with Union Place, thus creating a valuable and capacious central thoroughfare.

There is hardly any person who can estimate how immensely our municipal facilities would be augmented by the consummation of this system of improvements. Although it would change the occupation of much property in the lower part of the town it would do so with advantage instead of injury to the proprietors, except perhaps to publicans and saloon keepers. It would set free to commerce a large part of the best ground in the city, and it would supply the materials of commerce with better facilities of external and internal transportation than can exist in the present condition of the city. Is not the scheme worthy of an effort?

Improvement of the Locomotive.

By Zerah Colburn.

The Boiler.

To increase the strength and evaporative power of the Locomotive Boiler would secure an important improvement. The *principle* upon which this Boiler is built is already the best, known to experience; and to increase its power without change of structure, would require an increase of its dimensions. But with the ordinary arrangement of locomotives, there are practical limits to the size of the boiler, and not until these are removed, and until some practical difficulties, attendant upon the use of large boilers, be overcome, can we obtain the dimensions due to the most powerful engines we may be likely to require.

The necessary arrangement of *passenger* engines, adapted at least to American if not to all roads, imposes fixed limits to the size of boiler, and such limits as, in some cases, have been nearly reached. These limits are the height of driving axles, and the width between driving wheels, when measured across the track. In freight engines, these limits are less inconvenient, as the wheels are, or should be, of comparatively small diameter, and may also be grouped closely together. The *diameter* only of the boiler is chiefly governed by these limits, the length of boiler and depth of furnace being generally limited by other considerations.

For 4 feet 8½ inch guage, a diameter of boiler, of 52 inches outside of all, is the largest attainable with high driving wheels; and is as large as is properly consistent with safety. A diameter of 52 inches, as compared with 44 inches, is larger by 40 per cent.; and is sufficiently large, it having corresponding length, to preclude the necessity of the oval form of boiler.

I shall hereafter show the relative room afforded by the outside and inside connected arrangements of engine, and the extent to which they govern the position of the boiler. But independent of the obstacles interposed by the inside connected engine, the *spring suspension* of *all* engines has been usually placed in the way of lowering the boiler to the limit imposed by the driving axles. To use a boiler, therefore of 52 inches diameter, upon a narrow-guage engine, would require the springs to be placed *above* the horizontal diameter of the boiler; the only place consistent with steadiness of motion. This would be necessary only with driving wheels of over 5 feet diameter. The difficulty would then exist of having no room between the sides of the boiler and the inner faces of the driving wheels to permit the spring pintals or straps to pass down to the axle boxes. To do this an indentation would require to be made in each side of the boiler, easily done by heating and hammering the boiler plate before it is riveted up. This indentation need not interfere with the tubes as the greatest width occupied by the tubes cannot exceed 46 inches, for a narrow gauge and with high driving wheels. If then the link motion and eccentrics be placed beyond interference, we can use a boiler of 52 inches diameter with 6 feet wheels, upon the narrow guage, and with a distance of but 5 feet 7 inches from the rail to the centre of the boiler. Thus we gain a *point*, and a very important and useful one.

I will show, hereafter, the opportunties for increasing the size of the boilers of low-wheeled freight engines.

We must next look to the furnace. The size and proportions of this part of the boiler have the greatest influence upon its evaporative power and economy. To discuss the *proportion* of furnace to boiler room would involve a consideration of the draught, character of fuel, and other circumstances without evolving any permanent proportion different from that usually applied. I shall therefore only consider the opportunities for increasing the size of the furnace, and especially of its width.

Our 52-inch boiler would admit of a furnace 5 feet 2 inches deep, the center of waist of boiler being 5 feet 7 inches from the rails. This depth is from six to twelve inches more than is usually obtained, except with boilers set very high.

The length of furnace may be 5 feet if desired, and will ultimately be made as much in usual cases of large engines. A long furnace involves spreading the wheels; giving a longer and steadier base; separating, by a greater distance, the weights acting to deflect the rails, and obtaining also more adhesion, by relieving the trucks. The limit to such spreading of the drivers is in the concentration of weight. Capt. John Childe, Civil Engineer, who was among the first to urge such a disposition of the wheels, fixes the limit at eight feet between centers. A furnace 5 feet long would require 7 feet 2 inch centers for an outside-connected engine.

But as the *length* of a locomotive furnace is increased so is the distance through which the air is drawn through the burning fuel. The ready and free admission of air in a furnace governs, to an extent, the strength of draft required, and, with a locomotive, governs the size of the blast-pipe

openings. The impediments to a free entrance and passage of air in a furnace, increase almost in a geometrical ratio the distances traversed. Indeed I have seen long furnaces with a fierce fire next to the tubes, while the back of the fire was comparatively dead. In regarding the increased thickness of the bed of fuel, the interposed current of air nearest the tubes, the natural surface of the burning mass of fuel (being inclined towards the tube sheet) and other circumstances, I believe that the efficacy of grate surface is nearly inversely as its longitudinal removal from the tube sheet.

To a moderate increase of width no such objections exist, while any increase in that direction, is an increase of actual surface on which the fuel is burnt. Narrow-gauge locomotives, seldom have grates of over 38 inches width, in consequence of the room, occupied between the driving wheels and firebox, by the flat frame and the springs. But a frame of one inch thickness and eight inches depth, placed on edge would be stiffer, and afford a better fastening for the machinery of the engine. Indeed, the *cheapest* frame possible would be that formed by two plain bars joined at their ends, and having the pedestals bolted on. Such a frame would cost no more than the cost of bar-iron and labor of welding up to the required length. Such a frame, further more, would allow of a grate of 46 inches width, a gain of from four to ten inches over furnaces in use. The springs would be well secured above the horizontal diameter of boilers, as already described, and would not interfere with any detail of this arrangement.

The combined dispositions thus decided, giving a furnace 5 feet long, 3 feet 2 inches wide, would afford over 107 feet of fire-box heating surface, a larger extent than is any where used in this country for large passenger, wood-burning engines.—The area of grate would be 19 1-6 feet, far exceeding any ordinary attainment for similar boilers.

In my next I shall consider the opportunities for increasing the extent and efficiency of the tube surface.

The Engineering Profession.

Among the ill effects which the late financial difficulties have had upon railway projects, there is one which will be severely felt by a large class of citizens; the loss of employment to the host of engineers who were employed upon our roads last year. A great difficulty was found two years ago in obtaining men qualified to run, locate, and construct the lines then projected; and very many, *too many* young men entered the profession, encouraged by the then high wages, and fair prospect for long employment.

This year most of these roads have been stopped, and their engineers thrown out of work with no prospect of obtaining more. Gentlemen thoroughly qualified by education and long experience, are forced to be idle, or turn their attention to other new kinds of business. Half-fledged Assistants are racing around the country looking for situations, and those who are lucky enough still to hold on, are trembling lest they have to go too.

Wages have gone down to scarcely living prices and the chances for more work, or better pay grow more dubious.

Now a great proportion of this evil is due to the fact, that there are too many in the ranks, and among all too many who are not engineers, a proportion easily enough corrected; and which I hope, will be, if confidence in railway enterprize is again restored, and the work goes on next year. Railway Directors are most to blame, for the overstock of the profession. They have been too little apt to look at the actual wants of their works, and having young friends to please have secured their appointments without knowing whether they were wanted or not. Chief engineers of western roads especially, have scarcely inquired into the qualifications of applicants, and have frequently made appointments of green hands, to the exclusion of experienced ones. Cousins, and brothers, and brothers-in-law, of engineers have been in very many instances put in charge of Divisions, merely for relation sake, when they have had so little experience as scarcely to know how to "read the rod." Ax-men and rod-men are promoted too soon (for their own good sometimes,) and after once being an Assistant become unwilling to accept again any situation less than that.

These are real evils, of manifest injury to the profession, and steps should be taken to remedy them. If railway construction goes on next year, Chief Engineers and Directors can obviate them, in a great measure, by making fewer appointments of *new* hands. Men who have been in the business, and who can furnish testimonials, as to their qualifications should be the first ones chosen; and after these are all employed then there will be time for new ones. Again, do not let us have so much of undeserved promotion. The berth of "Assistant engineer" is one of no little responsibility; in many cases of more importance than the "Residency." Every rodman who can use the evel or transit, is not qualified to be an Assistant. There is (or ought to be) something more required of him, than the mere ability to set slope stakes, or measure borrowing pits. There is a large amount of knowledge, easily enough acquired by a studious person, it is true, which it is necessary an Assistant should have before he should be allowed to take charge of a Division. The Resident cannot always be on hand, and an ignorant Assistant, may, through his want of knowledge cause a very serious and permanent injury to his work; or pass unnoticed some fault which a practised eye would have at once detected. I know of one Assistant, having charge of a Division on which is a heavy bridge of 4 long span, whose whole experience comes within 9 months. Such a work ought not to be entrusted to such a person. Ax-men and Rodmen should be expected to serve longer in those positions than they usually do; and be made to pass a rigid examination before being recommended for promotion. Young men, (old ones too) should not be appointed to stations, which, upon a thorough questioning, they are not found qualified to fill. And I dont see why, like in other pursuits, engineers should not be strictly required to pass through all the grades. Among the Chiefs in England and this country, we find the best are those who commenced at the ax and chain. As appointments have been made, and as engineers have been treated socially, an ax-man's berth is no more plebeian than a 3d assistant's is in our Naval engineer service.

The Profession of Civil Engineering is not merely the art of building a railway. It embraces a large share of all the sciences, and thoroughly qualified engineers, as the Stephensons, and Mr. Brunel, of England; E. F. Johnson, Charles Ellet, Jr., and others of our own country, must be ranked among the most learned men of their nations. There are many young men, who have entered the business, to study hard and learn it all, but who will be utterly discouraged if they find that the unqualified are to be promoted over them out of mere friendship; or that the profession is to be overcrowded because the appointing powers *dislike* to refuse applicants.

A. F. H.

Cleveland and Toledo Railroad.

FIRST ANNUAL REPORT.

As the present Corporation was organized by the union into one, of two distinct and independent companies, it is deemed proper to present a condensed introductory history of the companies thus united, prior to their consolidation, without which the character and constitution of the present Corporation may not be fully understood.

One of the companies thus united, was incorporated and known by the name of Junction Railroad Company, and the other by the name of the Toledo, Norwalk and Cleveland Railroad Company. The former was incorporated by an act of the Legislature of Ohio, passed on the second day of March, 1846, and the latter, by an act of the seventh of March, 1850. The Junction Railroad Company by its original Charter, and two several amendments passed on the 22d of January, and the 21st of March, 1851, was authorized to construct a railroad from the City of Cleveland to the west line of the State by such route as the Directors might determine, with power to construct branches to any points within the counties through which the main line might pass. The Charter of the Toledo, Norwalk and Cleveland Railroad Company, authorized the construction of a railroad from Toledo, by the way of Norwalk, in the County of Huron, to a connection with the Cleveland, Columbus and Cincinnati Railroad, at some point in the County of Huron or Lorain. The authorized Capital Stock of the Junction Company, was $3,000,000, and that of the other Company, $2,000,000, making the united capital of the two roads $5,000,000, which is consequently the capital of the consolidated Corporation.

The consolidation was effected, and the present Company organized on the first of September, A. D. 1853, under the specific provisions of the twelfth section of the amendment to the Toledo, Norwalk and Cleveland Railroad charter, passed on the first day of March, 1850. Under its charter the Toledo, Norwalk and Cleveland Co. constructed a road from the East Bank of the Maumee River, opposite the City of Toledo, to Grafton, where it connects with the Cleveland, Columbus and Cincinnati Railroad, 25 miles southwest from the City of Cleveland, being a distance of 87½ miles, all of which was finished and put into operation in the month of January, A. D. 1853.

It is well known, that the completion of this road finished the last remaining link in the long and important line of railway from New York and Boston to Chicago, which has since been extended to the Mississippi River, where it find a temporary resting place only in its progress to the far distant West. This road passes through several flourishing towns, and is now denominated, the Southern division of the Cleveland and Toledo Railroad Company.

At the time it was opened, its immediate affluents were the Cleveland and Columbus, the Sandusky and Mansfield, the Mad River and Lake Erie, and the Michigan Southern, Railroads. Other roads of importance, and which will add most essentially to its business, are now under construction, and will, at no distant time, be completed.

The Junction Road, or Northern Division as it is now called, commence at the City of Cleveland, and, except a necessary deflection to find a convenient locality for crossing the deep bed of Rocky River, follows the Lake shore closely, passing through several growing towns, among which is the City of Sandusky, to its junction with the Southern Division, about 8 miles east of Toledo, and 99 miles from Cleveland. From this point, a

branch track is now being laid down to Toledo on the road bed of the Southern Division. The main track here crosses the Southern Division, and extends forward through Perrysburgh, and Maumee City, in nearly a right line to its junction with the Northern Indiana, near Swanton, 14 miles west of Maumee City, and one hundred and twenty-five miles and eighty-six hundredths from Cleveland. Counting the branch to Toledo as a part of this division, its whole length is within a fraction of one hundred and thirty-four miles. If to this be added the Southern Division, eighty-seven and one-half miles, the aggregate line of road of the consolidated corporation will exceed two hundred and twenty-one miles, exclusive of the side tracks and turn-outs.

The portion of the Northern Division between Cleveland and Sandusky City, a distance of sixty miles, was finished and opened for travel last fall, and is now in successful operation. The part of this division between Sandusky and its intersection with the Southern Division, a distance of 39 miles, and the branch track from this point to Toledo, 8 miles, making an aggregate of 47 miles, will be completed by the middle of the present month of July, unless some unforeseen accident, not now anticipated, should happen to prevent it. The track laying on this part of the road is now so far advanced, that its completion by that time may be confidently counted upon.

That part of the Northern Division which lies between the intersection of the two divisions, and the point where it crosses the Toledo and Illinois Railroad at Maumee City, a distance of something less than 13 miles, will be completed and brought into use during the present season—probably by the middle of October or first of November—so that before the close of navigation, about 112 miles of the main line of the Northern Division, and the branch track of eight miles to Toledo, will have been completed and brought into use.

This will leave unfinished at the close of this season, only the short space of 14 or 15 miles, between Maumee City and the junction of this division with the Northern Indiana Air Line Railroad, now under construction. The report of the Engineer, shows that most of it is already graded, and that when necessary, that part of the road can be finished in a few weeks time. It is not deemed important to finish this last link in the road, before the whole line of the Northern Indiana Road is completed and ready for business.

The Southern Michigan, the Northern Indiana, the Toledo and Illinois, and the Northern Division of the Cleveland and Toledo Railroads are of the gauge of four feet eight and a half inches; and the roads running west from Chicago to the Mississippi River, are of the same gauge..

The Southern Division of the Cleveland and and Toledo Road, is of the gauge of four feet ten inches, and corresponds to the gauge of the roads which it intersects, and those with which it is connected at its eastern terminus.

On the last named division, there is a break of gauge at its connection with the Michigan Southern, at the City of Toledo.

By opening the Northern Division to Toledo, and also to its intersection with the Toledo and Illinois road at Maumee, this great inconvenience will be avoided at both of these points.

It is undestood, and we may say reduced to a certainty, that the Toledo and Illinois Road will be opened during the coming Autumn, from Maumee City to Fort Wayne, a distance of ninety miles, and probably some thirty miles beyond the last named place.

That Road is destined to go forward into the Wabash Valley, to its connection at Paris with the Terre Haute and Alton Road, and to St. Louis by the way of Alton. It passes through a country of unsurpassed fertility, and it cannot fail to bring to the Cleveland and Toledo Road, a most important accession to its business. The amount of trade and travel that will flow in upon us from that great line of road, will be second in magnitude to no other affluent, except the Michigan Southern and Northern Indiana.

The Northern Division was commenced and successfully carried forward, under the charge of Hon. E. Lane, to the time of the Consolidation; when that was effected, the Directors did not deem it necessary to press the work to its earliest completion, since the Southern Division—which was then in operation—furnished a temporary accomodation for the business that might be expected to be done by both, while they were yet new and undeveloped lines of trade and travel.

The report of the able and experienced engineer who has had charge of the construction of that divisron of the work from its commencement, will show its solid and substantial character, and that the runious and expensive expedient of slighting any part of the work with a view to lessen the first cost of construction has been wisely avoided. From its solid construction, slight curve, and low grades, we feel confident assurance that there is no road in the western country over which better time can be made, or with more safety; and that it will perform its whole duty as one of the links in the great chain of Railroads from New York to the Misissippi river. At present the travel of this great Line mainly passes over the Southern division; when both roads are opened to the free choice of the travelling public, the business will probably be divided between the two. The construction of depot accomodations for freight and passengers, has thus far been confined chiefly to the immediate wants of the Company. Ampler provison will be indispensable, especially at Toledo, Sandusky and Cleveland. The cost of these cannot now be stated, as it will depend mainly upon the plan that may be adopted, which is not yet definitely decided upon. It may not be inappropriate to bestow a few remarks upon what may be denoninated the natural power of the geographical position which is occupied by the Company's rods. The slightest inspection of the map of the country must convince any one, that viewed with reference to Railway communication, the line between Cleveland and Toledo is' and ever must be, of commanding importance. Between these two cities the waters of Lake Erie project down into the very heart of the United States and form the most Southern point in the Northern boundary of the whole extensive line from the Atlantic to the Pacific oceans.

Here the Southern shore of Lake Erie comes down to about 41½° north latitude. Assuming Cleveland as a station of departure Eastward, the boundary line of the United States runs from it uniformly nearly North-East, until at its North East terminus in the State of Maine, it reaches a point above latitude 47°. A line drawn East from that city, with a very slight Southern deflection, will strike the city of Philadelphia. Indeed, for all *practical* purposes, that city may be regarded as on the same parallel of latitude with Clevland. This last named line passes through the heart of Pennsylvania and New Jersey, while New York and the New-England States lie to the north of it. Passing to the west end of our road, and taking Toledo as a station, the boundary of the United States turns suddenly around the head of Lake Erie, running almost North, until it intersects Lake Superior, and thence through that lake to North latitude 49°' and thence west on that parellel to the Pacific. It also so happens that Lake Michigan projects down into the country to a point at its Southern extreme, nearly on a parallel of latitude with the South Shore of Lake Erie, between Toledo and Cleveland.

Lake Michigan, from its geographical position, may be regarded as an insuperable natural barrier to Railroad communication, and must always force around its southern extremity and concentrate at that point, the Railroad travel from the immense extent of country lying North, Northwest and West of it, stretching away West to the very foot of the Rocky Mountains, and North and North-west to the shores of Lake Superior, and into regions far beyond the confines of that lake. Destined as that boundless and fertile expanse of country undoubtedly is, to be peopled with unprecedented rapidity, the travel from it to the Northern Atlantic cities, will, in a few years, exceed in amount what might now be regarded by many as the vision of a disordered imagination. At Chicago, a partial distribution to the North-east and South-east will take place. But it it unmistakably evident from an inspection of the map, as well as from the known natural features of the country, that when the railway travel going Eastward from this boundless region is brought down, as it ever must be, to the Southern extremity of Lake Michigan, the great mass of travel when once there, will keep forward on a nearly due east line to Cleveland. From the turn the Lake here takes to the North-east, Cleveland will always be the first great point of distribution of the travel to the Northern Atlantic cities, thus forced around the south shore of Lake Michigan. A part will seek its way to Pennsylvania and the Atlantic cities, over the Cleveland and Pittsburgh Railroad. A part will take the same direction over the Cleveland and Mahoning road, which, with its connections when completed, form a line of uniform guage from Rock Island on the Mississippi river, both to Philadelphia and New York. The remaining and perhaps the greatest part, will follow the lake shore to Dunkirk, when another distribution will take place between the New York and Erie, and the more Northern roads. Nor does this movement, vast as it ever must be, constitute by any means the entire mass of travel from the West, that will find its natural outlet to the East, and North-east, along this part of the Southern shore of Lake Erie.

The Michigan Southern and the Northern Indiana roads will bring to Toledo the trade and travel of the country, along their respective lines, situated between Lakes Erie and Michigan; while the Toledo and Illinois line of road will bring to the same point from the South-west, and the trade and travel of the Maumee and Wabash valies, extending even to St. Louis by the way of the Terre Haute and Alton Railroad.

This latter line of road penetrates into and passes through hundreds of miles of country of unsurpassed ferility, and viewed in connection with the long and important lines of Railroads which unite with it from the West at Fort Wayne, Logansport, and Lafayette, and that it intersects both branches of the Illinois Central nearly midway their course, its immense value as an affluent to the Cleveland and Toledo Railroad is self-evident and can scarcely admit of an over estimate.

With the trade and travel going West from the Northern Atlantic cities, the converse process of concentration and distribution will take place.—The first great point of concentration from Philadelphia and the country North of it, will be at Cleveland, thence passing over the Cleveland and Toledo road to the city of Toledo, the first distribution of this concentrated travel will there take place between that going forward North-west and West, towards Lake Michigan, and that seeking its way South-west through the vallies of the Maumee and Wabash rivers into Indiana and Illinois to the St. Louis, and the country beyond and above that city, on both sides of the Mississippi.

The second point of distribution will be at Chicago. A part passing up the west shore of Lake Michigan, past Green Bay into the upper peninsula of Michigan, to the copper and iron bearing region. A part finding its way North-west, towards the western end of Lake Superior, and the head waters of the Mississippi, and at no distant day far beyond the sources of that river, into the extensive regions drained by the great Red river of the north, and stretching off West to the slopes of the Rocky Mountains, which according to the report of Capt. Pope, of the United States Topographical Corps, of his exploration of the upper waters of the Mississippi, and of the country within the limits of the United States, drained by the above mentioned Red River, made by order of the War Department, is a country of great agricultural fertility, and of sufficient extent for at least two respectable States. All that region when peopled, must ever on its way, come down around the southern bend of Lake Michigan. The remaining part

will go forward West and South-west from Chicago to the very verge of civilization on this side of the Rocky Mountain.

When we contemplate the certainty and magnitude of this no distant future, there can be no mistaking the fact, that the net-work of vast railroads branching out from Chicago over all the country above described, will concentrate at the Southern extremity of Lake Michigan, a volume of travel and trade, which in the movement of human commerce and intercourse, will bear the same relation to the secondary and ordinary lines of trade and travel, and that the aggregated current of a mighty river sustains to the head springs of the valley. The main body of this great movement, when thus concentrated at the southern extremity of Lake Michigan, will naturally go forward in a direct line to the head of Lake Erie at Toledo, and thence to Cleveland, where, as already explained, its first important distribution will take place. This statement of the commanding natural position of this great trunk line along the southernmost shore of Lake Erie, between Toledo and Cleveland, rendes it wholly unnecessary to enter into anyspecification of what now are, and what must be hereafter, its almost innumerable affluents direct and remote, both East and West of it, or to go into a detail of their individual importance.

Enough has already been said on this topic to demonstrate that the Cleveland and Toledo Railroad may safely rely for its present and future prosperity upon the broad and deep fountains of business provided for it by the hand of nature, which can neither be dried up nor diverted from their natural channels; and these considerations make manifest the propriety of combining the two parallel lines above described in one corporation, which add largely to the local accommodations, and avoid the possibility of rival and interfering interests, while the business to be developed will be constantly on the increase, and tax to the utmost the capacity of both.

In corroboration of this view, notwithstanding the long continued stringency in the money market, and the diminished activity of business this year compared to the last, yet during the only four months of this year and the last, in which it is in the power of the Company to make a comparison, the receipts of these four months have exceeded those of last year on the Southern division seventy-three per cent. The report of the Superintendent exhibits the gratifying fact, that the gross earnings of the Company for nine months, commencing with the 1st of September last, when the consolidation took place (and the present Company was organized) to the 31st of May, amounted to $497,570 30, and the cost of operating the road to $203,703 02, leaving a net income of $293,876 85. Thus it will be seen that the cost of running the road is a fraction less than forty per cent. of its earnings. The details of the cost of operating the road will be found in the superintendent's report. After what has been said above we deem it almost superfluous to express the opinion that the business of the company will be largely increased during the coming year, and that the Cleveland and Toledo Railrood will always be able to maintain its place on the list of first class investments.

During the nine months embraced in the Superintendent'sReport, commencing with the 1st of September last, the Company have transported over their roads upwards of three hundred thousand passengers without an accident causing a loss of life, or personal injury to any one of them, with the single exception of the fracture of a passenger's arm, which was incautiously projected from the window of a car, while passing a bridge. The Directors make this announcement with the most unfeigned satisfaction. No other fact could so conclusively prove that the Road is so managed as to entitle it to the confidence of the travelling public, and that its safety has been vigilantly guarded by the Superintendent, Conductors, Engineers, and all others employed in the transportation department. In concluding our report, we take great pleasure in bearing testimony to the ability, fidelity and zeal with which all the Officers and Agents of the Company have discharged their respective Duties.

S. F. VINTON
President.

Greenville and Columbia Railroad.

The recent annual report of this company states the total disbursements on amount of construction up to July 10th, to have been $1,999,080 41. The total cost of road as represented by its stock and debt is as follows:

Stock paid in	$1,293,464 25
Bonds sold	530,500 00
Floating Debt	438,306 27
Total	$2,262,270 52

From this sum are to be deducted $140,777 77, being the amount of the available means of the Company.

To pay the floating debt the Company have still on hand $269,500 of mortgage bonds, being the balance of an issue of $800,000. Estimating the bonds at *par*, there will be a balance of $28,028 00 of indebtedness to be provided for.

The receipts of the road for the year have been $214,865 18. The estimated receipts for the current year are $300,000, which will be sufficient, allowing one-half for working expenses, to pay the interest on the funded debt, and 7 per ct. on the stock.

The total length of main track to Greenville is 143 miles. Length of the Anderson Branch 10: Abbeville Branch 12 miles: total length of road 165 miles. The road has been operated the past year with great success. Of 45,000 passengers carried, not one has suffered injury. The equipment has been almost equally free from accident.

The above road supplies railway accommodations to an extensive and wealthy portion of South Carolina. It has been built at low cost and bids fair to be remunerative to *stockholders*, as well as to add largely to the value of property on its route. Its management from the commencement has been characterized by prudence, economy and perseverance, which qualities have secured to the public a valuable work, and to the stockholders what is destined to a profitable one.

Why Earnings are Applied to Construction.

We presume that the increase of *construction* accounts of most of our railroads exceeds annually the amount of their *net* earnings. This increase is the unavoidable result of a proportionate increase of *traffic*. There is no good reason why this increase should be borne by *earnings*, nor why dividends should not be paid from year to year, upon capital actually invested. But it may happen, as such has been the case the present year, that from the difficulty of borrowing money, or of obtaining *new* additions to the capital account, earnings are expended in construction, to meet exigencies that cannot be provided for in the manner above stated. There is no dobt that the New York Central, the Cleveland and Columbus, and the Little Miami Companies, are earning *net*, a large dividend upon their *cost*. Yet they have recently omitted to pay one, in consequence of having applied the earnings in improvements upon their lines, and which could not be postponed without great loss, or inconvenience. The course pursued has rendered the roads all the more valuable, though the effect has been to depress their market value. Roads may be compelled to expend their earnings upon construction, but there is no good reason why they should do so, provided money can be had from other sources. The increase of the capital account of the Boston and Worcester Railroad from 1836 to 1849 was $3,400,000, while the whole amount of net earnings was only $3,000,000; yet during this period of 14 years the Company earned and paid, over seven per cent. upon the cost of the road, annually. This is one of the soundest and most productive and successful roads in the United States; but had the increased expenditures been paid from earnings, the stockholders would not have received a penny up to the present time.

It may be inconvenient for holders of railroad stock to forego their usual dividends, but they really suffer no loss. They only invest their own means, instead of creating *new* debts; and also it may be entirely proper for companies to divide earnings upon the capital they have already invested, while their construction accounts may be open. Certainly, it is much wiser for them to reinvest their own means, than to borrow of others at exorbitant rates.

Ohio and Indiana Railroad.

The entire track of the Ohio and Indiana Railroad, extending from Crestline on the Cleveland, Columbus and Cincinnati road, to Fort Wayne, in Indiana, is laid, with the exception of some thirty miles, which is now being put down and the whole road will be completed and in operation by the 5th September next. This company have constructed their work with great care. They will have one of the best works in Ohio, and much of success and throughness may be justly attributed to their able President Samuel Hanna, of Fort Wayne Indiana.

The Alexandria and Gordonsville Railroad.

We learn from the Charlottesville Advocate that "the subscription of Amherst and the private subscriptions already obtained have placed at least the commencement of this work beyond all doubt. Wether it will be completed, or not must turn upon the additional assistance that it is hoped will be rendered by those who will soon learn to appreciate its great advantages. The letting of the whole distance to Lynchburg—58 miles—will take place as soon as the notice of the fact can be properly advertised."

Milwaukie and Mississippi Railroad.

The earnings of the Milwaukie and Mississippi Railroad for July were:

	1853.	1854.
Passengers	$8,384 64	$16,099 65
Freight	7,770 21	19,474 79
Total	$16,154 85	$35,574 74

The road is now running to Madison 100 miles, while it was running to Janesville, 70 miles, in the month of July, 1853. Taking the average per mile of last year's business, the increase of length of road would require receipts of about $23,100, leaving a margin of over $12,000 for actual increase of business during the dullest month of the whole year. In the year 1852, the total receipts of July (the road open toEagle 36 miles,) were $4,419 86. The average sum per mile, per month, of road for the three years is:

1852	$122 50	1854	$355 74
1853	231 00		

North Carolina Railroad Convention.

A Convention will be held in Centre, Stanly County, on Saturday the 9th day of September next, to take into consideration the subject of connecting the Atlantic Seaports of North Carolina by railway communication, with the chain of roads bordering to the valley of the Mississippi.

South-West Branch Pacific Railroad.

We understand that the first division of this road, from Franklin to Gasconade, is now ready for construction, all the preliminary engneering work being complete. The engineer force has been organized with a view to immediate prosecution of the work, but as the means for this is entirely dependent on the citizens of the South-west, and the question as to the tax for the necessary $500,000 postponed until the August election, it has been thought advisable to discontinue this force, until it is certain that the South west would be true to its own interest, and subscribe the amount needed, and orders have been issued to that effect. The engineers will be placed again on the line within thirty days, provided favorable action is had in regard to the subscription, but not until the whole sum, $500,000, is taken.—*St. Louis Republican.*

Boston and New York Central Railroad.

The Directors propose to issue $250,000 of their first mortgage bonds "to stockholders and friends of the enterprise," at 80 cents on a dollar. The avails are supposed to be sufficient to enable trains to run over the entire road into Boston, within 60 days. The authorised capital of the Boston and New York Central is $2,925,000 in shares of $100. Of this, 22,088 shares ($2,208,800) have been issued to stockholders and 1612 shares have been pledged as collateral. The concern owes a balance of $936,379 71, beside $297,750 of Norfolk County bonds outstanding. Its assets are $1,200,000 of mortgaged bonds, and the unissued stock, say 7000 shares. Of the bonds, $694,000 have been pledged as collateral, for $512,931. Of this last amount, $450,000 is not due for one year, or thereabouts. Practically, the road has $500,000 of bonds on hand, with which to carry the floating debt and put itself in running order.

Ogdensburgh (Northern N. Y.) Railway.

At a meeting of the board of Directors of the Ogdensburgh Railroad, held at Malone, August 2, Wm. Raymond Lee was chosen President; Geo. V. Hoyle, Vice-President and Superintendent; J. Francis Tuckerman, Treasurer, and I. G. Hopkins, Secretary.

Cleveland Painesville and Ashtabula Railroad

At a meeting of the stockholders of the Cleveland, Painesville and Ashtabula Railroad, held at Cleveland on Tuesday last, the following gentlemen were unanimously elected to serve as directors for the ensuing year: Alfred Kelley, Columbus, Ohio; Wm. Case, Chas. Hickox, Amasa Stone, Jr., W. D. Beattie, Stillman Witt, T. M. Kelley, George B. Ely of Cleveland, O.; D. R. Page, Madison, O.; Erastus Case, Auburn, N. Y. At a subsequent meeting of the directors, W. Case of Cleveland, was reelected President; George B. Ely, Secretary, and P. Handy, Treasurer. An exhidit of the finalcial condition of the company was presented, which was very satisfactory. The business of the road for the six months ending June 30, shows an increse of twenty-five per cent. over the same period of last year.

Cincinnati, Harrison & Indianapolis Railroad

At the regular annual meeting of the stockholders of Cincinnati, Harrison and Indianapolis Straight Line Railroad Company, held on the 10th of August the following gentlemen were elected Directors for the ensning year:

E. M. Gregory, Chas. Reemelin. T. W. Faber, R. H. Pinny, Robert Boal, J. H. Gerard, John M. Makin.

The Board of Directors organized by electing E. M. Gregory, President; Chas. Reemelin, General Agent; T. W. Faber, Secretary; John M. Makin, Treasurer.

500 TONS No.1 Glengarnock Scotch Pig Iron in lots to suit purchasers for sale by
NAYLOR & CO.
99 *and* 101 *John st.*
N. B.—The above Iron constantly imported. [32 tf.

To Engineers and Surveyors.

A YOUNG man, 18 years old, wants a situation (to learn the business) as chain carrier, in a railroad survey. No objections to go to any part of the country, or world. Good reference can be given if required. Address **A. S.**, Office of this Journal. [32 1m

RAILROAD STOCKS, BONDS & STATE SECURITIES.
The subscriber offers for sale—
Ohio and Mississippi Railroad Company, 7 per cent. second mortgage, convertible Bonds. Interest payable semi-annually in New York.
Scioto and Hocking Valley Railroad Company, 7 per cent. first mortgage, convertible Bonds. Interest payable semi-annually in New York.
Cincinnati, Western Railroad Company, 8 per cent. Real Estate Bonds. Interest payable semi-annually in New York.
Hamilton County, Ohio, 6 per cent. Bonds. Interest payable semi-annually in New York.
Louisville and Portland R. R. Co. Bonds.
Maysville and Lexington R. R. Co., 6 per cent. second mortgage, convertible Bonds.
Louisville City Bonds.
Cincinnati, Logansport and Chicago R. R. Co., 10 per cent. Income Bonds.
RAILROAD STOCKS.
Covington and Lexington R R. Stock.
Cincinnati, Hamilton and Dayton R. R. Stock.
Little Miami R. R. Stock.
Ohio and Mississippi R. R. Stock.
Southern Bank of Kentucky Stock.
Columbus and Xenia R R. Stock.
Cincinnati and Chicago R. R. Stock.
Central Indiana R. R. Stock
Cincinnati and Indianapolis R. R. Stock.
Indianapolis and Bellefontaine R. R. Stock.
Cincinnati, Wilmington and Zanesville R. R. Stock.
WANTED—$100,000, for which the best securities will be given.
WANTED—$40,000, on commercial paper.
ISAAC OSBORN DAVIS,
Stock Exchange and Financial Agency Office,
No. 38 Third street,
32 1m] *Cincinnati, Ohio.*

Machinists' Tools.
SHRIVER & BROTHERS,
Cumberland, Maryland,

(on Baltimore & Ohio R R., midway between Baltimore and the Ohio River)

MANUFACTURERS of *Engine Lathes, Planing Machines, Drill Presses, Hand Lathes,* and *other Machinists' Tools*

These tools are built in a superior manner, from the very best materials, and are particularly adapted for railroad shops and all others requiring first rate machinery Our location is very advantageous for shipping work to the West or South. Orders and communications receive prompt attention. Address
SHRIVER & BROTHERS. *Fulton Works,*
Cumberland, Maryland.
August 19th, 1854. [32. 6m

OFFICE CINCINNATI, HAMILTON & DAYTON R. R. Co.
Cincinnati, August 8th, 1854.

THE Board of Directors of this Company have this day declared a Dividend of Five per cent. out of the net earnings of the Company for the Six months ending 31 July, payable in Scrip bearing Seven per cent. interest redeemable in three years. The Scrip will be delivered on and after Sept. 1st, to the Stockholders registered in Cincinnati on application at the office of the Company, and to those registered in New York at the office of the Ohio Life Insurance & Trust Company in that city. The Transfer Books will be closed for ten days from this date.
32 1m] FRANK S. BOND, *Secretary.*

Rensselaer Polytechnic Institute.

DESIGNED for the education of ARCHITECTS and CIVIL ENGINEERS,—including Railway, Hydraulic, Topographical, and Mining Engineers.

For copies of the *Annual Register*, giving full information respecting the Institute, apply to
R. FRANKLIN GREENE, *Director, R. P. I.*
32 3m] *Troy, New York.*

Lowmoor Iron.

☞ W. BAILEY LANG & CO., 54 CLIFF STREET, have in stock and offer for sale an assortment of Round, Flat and Square Bars LOWMOOR IRON, which they will sell by the ton or single bar. The attention of manufacturers, Railway Managers and Mechanics is particularly directed to the quality of this Iron, as its great strength, uniformity, and freedom from flaws, render it the best Iron in the market, where first quality is required.

W. BAILEY LANG & CO., being Sole Agents in the United States and Canadas for the LOWMOOR CO., will execute orders at manufacturer's prices. 6t.31

Universal Scroll Chucks.

THOSE in want of a superior article and of various sizes will please call at or adress the MERIDEN MACHINE CO. 15 Gold-st. corner of Platt, New York City. 31.2t

To Railroad and Canal Co.'s Contractors, &c.

THE undersigned would direct the attention o Chief Engineers and Contractors to the facilities they possess for supplying them with laborers, mechanics &c., of any description, and also inform them that they forward and deliver such men at whatever destination they may be required.

Companies or Contractors desirous of receiving steady and industrious men, will be promptly supplied at the shortest possible notice.
JOHN J. HELLING & CO.
No. 86 Greenwich Street, New York.
26.4t

Lawrence Scientific School,
HARVARD UNIVERSITY.

THE next term of this Institution will open on the thirty-first day of August, 1854, and continue twenty weeks.

Instruction by Recitations, Lectures and Practical exercises, according to the nature of the Study, will be given in:

Astronomy	by Messrs.	Bond.
Botany	„ Prof.	Gray.
Chemistry, Analytical and Practical	„ „	Horsford.
Comparative Anatomy and Physiology	„ „	Wyman.
Engineering	„ „	Eustis.
Mathematics	„ „	Pierce.
Mineralogy	„ „	Cooke.
Physics	„ „	Lovering.
Zoology and Geology	„ „	Agassiz.

For further information concerning the School application may be made to Prof. E. N. Horsford, Dean of the Faculty.
CAMARIDGE, Mass., July, 1854. [30 4t

For Sale.

BY the Baltimore and Ohio Railroad Company, 24 crate cars, adapted to Railroad purpose, which will be sold at a reasonable price. For further information, apply to.
SAMUEL J. HAYES,
M. of M., Baltimore and Ohio R. R. Co.,
Or BRIDGES & BRO.,
19 tf 64 Courtland st., New York,

To Contractors for Railroad Iron.

PROPOSALS will be received until the 20th September for nine thousand tons of railroad iron T pattern, sixty pounds to the yard, One-half to be delivered at Charleston, South Carolina, and one-half at Wilmington, North Carolina, delivery to commence in January and close in August, equal quantities to be delivered in each month at each place.

Payment will be made immediately on the delivery of each cargo, in North Carolina Funds. The contract will be given to the lowest responsible bidder provided the price be satisfactory. Bidders will endorse their bids—"*Proposals* for Railroad Iron"—and address them to Cyrus P. Mendenhall, Secretary, North Carolina Railroad Company, Greensboro, N. C.
WALTER GWYN,
Chief Eng. N. C. R. R. Co
Raleigh, August 3d, 1854. [3t.t d.

Steam Engine and Blowing Cylinders for Blast Furnace for Sale.

A STEAM ENGINE, 20 inch cylinder, and five feet stroke, together with Blowing Cylinders, five feet diameter, and six feet stroke, in perfect working order, for sale. Apply to
EDW. BECH & KUNHARDT, 62 Beaver St.,
Or, A. TOWAR, Agent Pokeepsie Iron Works,
23tf Pokeepsie, N. Y.

To Civil Engineers.

J. M——, residing at 102, Third avenue, New York city—wishes to obtain the situation of assistant in a Civil Engineer's office, or the situation of Engineer or Superintendent of works. or for any department of work, or—having surveying instruments of his own—he would under take surveys both for railroads and other works.

He has been employed principally in Scotland surveying railways, superintending railway works making surveys of Burghs, surveying for water works, &c.

He most respectfully solicits the attention of Civil Engineers or parties who require his services, and will attend to business faithfully and efficiently. [1t 32.1

ZERAH COLBURN,

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FOR the Design, Construction, Valuation and Purchase of Locomotives and Railroad Machinery.

Offers his services to Railroad Companies in either of these departments, having long experience and the best facilities for all.

As Consulting Engineer he will advise as to the value or adaptation of any system of motive power, and furnish drawings, estimates and specifications for any arrangement of engine.

As Acting Engineer he will superintend the construction, survey, or reconstruction of any railroad machinery, and guarantee satisfactory results.

As Contracting Engineer, having connection with the most reliable and successful manufacturers, he will negotiate for the purchase of Locomotives of the very best construction and proportions. Also Wheels, Tires and Repair Shop Machinery.

Having much experience in Patent Business he will undertake the preparation of Drawings, Specifications, Applications for Patent or Caveat and other papers necessary for inventors. He is able to give material assistance in bringing inventions and improvements in Railroad Machinery into favorable notice.

CHILLED TIRES FOR LOCOMOTIVE DRIVING WHEELS.

Zerah Colburn retains the principal agency for the sale and right of use of this valuable improvement, and will furnish the most substantial guarantees of its Safety, Durability, Adhesion and great Economy.

Office, 3d floor American Railroad Journal Building,
No. 9 Spruce street,
New York.

REFERENCES.

The New Jersey Locomotive and Machine Co.
James Jackson, Pres't., Paterson, N. J.
Chas. W. Elliott, Vice Pres't., 59 Beaver str., N. Y.
Henry V. Poor, Esq., Editor Railroad Journal, New York.
Geo. D. Phelps, Pres't. Del., Lack and Western Railroad.
Geo. W. Whistler, Vice Pres't New York & New Haven R.R.
William Raymond Lee, Esq., Boston.
Bush & Lobdell, Wilmington, Del.
Oliver M. Hyde, Esq., Mayor City of Detroit.

NUGENT'S COLLEGE

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ENGINEERS AND MECHANICS,

Public Square, Cleveland, Ohio.

E. Nugent, C. E., *Principal.*

THE design of this Institution is to afford young men an opportunity of acquiring a knowledge of the profession of Civil Engineering, and to Mechanics and Tradesmen a sound theoretical and practical knowledge of Mathematics, Architectural and Mechanical Drafting, Plain and Ornamental Penmanship, &c.

For further particulars address the Principal.

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PASSENGER TRAINS leave Pier foot of Duane street, as follows, viz:—

Buffalo Express, at 6 a. m. for Buffalo direct, over the N. Y. & E. R. R. and the B. & N. Y. C. R. R., without change of baggage or cars.

Dunkirk Express, at 6 a. m. for Dunkirk.

Mail, at 8¼ a. m. for Dunkirk and Buffalo, and intermediate stations. Passengers by this Train will remain over night at any Station between Binghamton and Corning, and proceed the next morning.

Way Express, at 1 p. m. for Dunkirk.

Rockland Passenger, at 4 p. m., (from foot of Chambers Street) via Piermont, for Suffern and intermediate stations.

Way Passenger, at 4 p. m., for Otisville, and intermediate stations.

Night Express, at 6 p. m. for Dunkirk and Buffalo.

Emigrant, at 6 p.m., for Dunkirk and Buffalo and intermediate Stations.

On Sundays only one Express Train—at 6 p.m.

These Express Trains connect at Elmira with the Elmira and Niagara Falls Railroad for Niagara Falls; at Buffalo with first-class splendid Steamers on Lake Erie for all ports on the Lake; and at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Toledo, Detroit, Chicago, etc.

D. C. McCALLUM, General Sup't.

Power Planers.

THOSE in want of a small Power Planer which will plane 3 feet in length, 14 in. wide, and 12 in. deep, and made in a superior manner, will please call at the office of the MERIDEN MACHINE CO. 15 Gold-st. conner of Platt, New York City.

Any communication by mail directed to the office or Factory (West Meriden, Ct.,) will meet with prompt attention.

For Sale.

A STATIONARY Engine, having cylinders 13 inches bore and 20 inches stroke complete in all respects and finished in the best manner. Has been in use about six months.

ROGERS, KETCHUM & GROSVENOR,
Paterson, New Jersey,
jul.14 29 tf.] or 74 Broadway, New York.

NEW YORK STATE CANALS.—NOTICE TO CONTRACTORS. In pursuance of a resolution of the Contracting Board, notice is hereby given, that sealed proposals will be received by the undersigned for the construction and completion of the work upon the several Canals of this State, described in the following tabular statement at the times and places therein mentioned:—

ENLARGEMENT OF ERIE CANAL—WESTERN DIVISION.

Sealed proposals will be received at the Engineer's Office in the city of Buffalo, until the 1st day of September next, at 10 o'clock, A. M. for the following described work between Tonawanda and Black Rock:—

Section 360, with penalty in bond of	..	$14,000.
" 361, " " " " "		20,000.
" 362, " " " " "		17,200.
" 363, " " " " "		10,000.
" 364, " " " " "		9,800.
" 365, " " " " "		10,600.
" 366, " " " " "		15,800.
" 367, " " " " "		12,000.
Guard Lock and Section at Black Rock	..	14,000.
Waste Weir on Section 360	..	500.
Culvert on Section 362	..	600.
Bridge Abutments on Section 360 to Lock Section inclusive	..	2,000.

The above work to be completed by the first of April, 1857.

Sealed proposals will be received at the Engineer's Office in the city of Rochester until the 4th day of September next, at 10 o'clock A. M., for the following described work between Rochester and Spencerport:—

Section 266, with a penalty in bond of		$7,500.
" 267, " " " " "		8,500.
" 268, " " " " "		6,700.
" 269, " " " " "		6,100.
" 270, " " " " "		6,500.
" 271, " " " " "		5,200.
" 272, " " " " "		5,600.
" 273, " " " " "		7,200.
" 274, " " " " "		4,200.
" 275, " " " " "		10,200.
Culverts on Sections 266 and 275, both inclusive do. do	..	3,500.
Bridge Abutments on Sections 266 to Section 270 both inclusive	..	3,000.
Bridge Abutments on Sections 271 to Section 275 both inclusive	..	2,000.

The above work to be completed by April 1st, 1856.

MIDDLE DIVISION.

Sealed proposals will be received at the Engineer's Office in the city of Syracuse until the 7th day of September next at 10 o'clock in the forenoon for the following described work:—

Section 135, with penalty in bond of	..	$5,400.
" 136, " " " " "	..	6,200.
" 137, " " " " "	..	5,100.
" 138, " " " " "	..	4,100.
" 139, " " " " "	..	4,700.
" 140, " " " " "	..	4,000.
" 141, " " " " "	..	5,200.
" 142, " " " " "	..	6,700.
" 143, " " " " "	..	6,100.
" 144, " " " " "	..	4,800.
" 145, " " " " "	..	4,700.
" 198, " " " " "	..	3,200.
" 199, " " " " "	..	4,000.
Culverts on Sections 135, 136, 137, 138 and 139	..	4,600.
Culverts on Sections 141, 144, 145, 146, 147, 148, 149	..	4,600.
Bridge Abutments on Sections 135, 136, 137, 140, 143 and 145	..	3,600.
Waste Weir at Cowassalon Creek	..	800.
Dam and Guard Gate do. do.	..	600.

The above work to be completed April 1st, 1856.

All propositions must be for a sum certain, as to the price to be paid or received, for each and every kind of work; and no proposition not thus defined will be received or acted upon; and no proposition will be considered complete unless price for every kind of work included in such proposition is distinctly and plainly inserted.

Every proposal shall be accompanied by an affidavit, endorsed thereon, of each person uniting in such proposal, that he is not directly or indirectly interested in any other proposal for the same work or materials, or any part of the same; that he has no agreement or understanding with any other person to become interested in any other proposal or contract for the same work or materials, or any part thereof; and that no other person than such as shall be named in the proposal is interested in the same, or has any agreement or understanding to become interested in any contract that may be made in pursuance of such proposal.

Every proposal for work or materials embraced in the above statements shall be accompanied with a bond to the people of this State, in the penalty specified opposite each kind of work in said statement, and which bond shall be signed by the party making such proposal and two or more responsible sureties, with such evidence of their responsibility as the contracting board shall require, and which sureties shall justify in sums equal in the aggregate to twice the amount of such penalty.

Each proposal must be accompanied by the certificate of the Supervisor of the town, and the County Clerk, or the County Judge of the county in which said surety shall reside, or any two of them, as to the responsibility of said sureties.

The persons to whom the work may be awarded will be required by the contracting board to give the bond for the payment of laborer's wages, as required by chapter 278, of the laws of 1850.

No acceptance of a proposal or award of a contract by the contracting board, and no contract made by the said board, or any interest in the same, shall be assignable to any person or persons, without the written consent of the Canal Commissioners.

Fifteen per cent of the amount of any work done or materials furnished, at the contract price thereof, shall be reserved by the canal commissioner until the whole work, which is the subject of the contract, shall be fully and entirely completed.

In case the contracting board shall be of opinion that the proposals made at any meeting thereof, pursuant to any advertisement, are, in consequence of any combination or otherwise, excessive and disadvantageous to the State, they may decline all the said proposals, and advertise anew for the work and materials embraced therein.

Contractors will be required to receive and use in the work all such materials as have been previously procured and delivered for any of the above work, and allow such prices therefor as may be exhibited at the several offices prior to the letting.

The prices in the contract will be considered as including the expense of furnishing all the materials, and performing all the work, according to the plans, specifications and notices exhibited at the letting.

The persons to whom the work may be awarded, will be required to enter into contract for the performance of the work within ten days after the same shall have been awarded to him, upon the terms prescribed by the contracting board.

The name or names of the persons proposing, must be written out in full, with their places of residence.

The maps, plans, specifications, quantities of materials, propositions, blank contracts and bonds will be ready for examination at the several places specified in this notice, ten days previous to the times specified for the several lettings.

Dated at Albany, August 1st, 1854.

HENRY FITZHUGH,
FREDERICK FOLLETT, } Canal Comm'rs.
CORNELIUS GARDINIER,

JAMES M. COOK. Comptroller.
JOHN T. CLARK, State Eng. and Surveyor.